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A JOURNAL DEVOTED
 TO BEES
 AND HONEY
 AND HOME
 INTERESTS

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STRAY STRAWS FROM DR. C. C. MILLER.

THE BLOSSOMS of the strawberries is what the bees worked on, Ernest.

AMALGAMATION. "It is noticeable that a real, valid, reasonable objection has not yet appeared."—*Review*. [See last Straw.—Ed.]

FOR FOUL BROOD, F. L. Thomson believes in feeding lysol outdoors, not as a cure, but as a preventive.—*Review*.

ALFALFA. H. Rauchfuss "thinks 8 or 10 acres to the colony, instead of $1\frac{1}{2}$, are necessary for their best work."—*Review*.

ONE ADVANTAGE in favor of bottom as well as top starters, both in sections and brood-frames, is that the shorter top starter will sag less.

"COMB FOUNDATION is only an amusing plaything, without any practical value." That's what no less an authority than Berlepsch said years ago. Many a good thing is at first condemned.

I'LL BE GLAD to see the Union and the North American both knocked in the head if some better thing takes their place. But, please don't do the knocking till sure you have the better thing.

CRIMSON CLOVER, according to reports in Gravenhorst's *Bienenzeitung*, is, in some places, of value both as forage and as a honey-plant, while in other places it is of little account for either purpose.

THE FIRST CASE you have of laying workers, try giving them a "pulled queen," or a virgin queen just emerged; may fail next trial, but has succeeded so far with me. [We have, and it is generally successful.—Ed.]

IS IT BEST to extract sections in any case? Those half filled can be sold at a reduced price, and the bees can extract those with less honey in them. [Sections of drawn comb are good capital, according to B. Taylor.—Ed.]

HASTY, in *Review*, says I bear down pretty hard in *A. B. J.* on the idea of old bees playing, and asks whether old bees don't play on a warm day in February. Look again, my dear brother. "During harvest time" is what I said.

WHY IS IT that the Rietsche foundation-press is so popular across the water, thousands of presses being in use, whereas I have heard of but one in this country, and that was condemned?—[They are too slow in operation for Americans.—Ed.]

SNAKE-CHARMERS in India and elsewhere handle poisonous snakes with no harm. Prof. T. L. Frazer explains that they become immune against the poison by small and repeated doses, just as a bee-keeper becomes immune against bee-stings.

SECTIONS MADE GREEN by too much sulphur, C. Davenport remedies by soaking in water. If that loosens the sections from the wood, he gives them back to be fastened by the bees, choosing a colony that has its brood-nest full of honey.—*A. B. J.*

PRINTED LABELS on white basswood are nice for trees, and why wouldn't they be good for numbering hives? [In time they would turn dark—that is, the wood. I think the manilla tagboard, soaked in linseed oil, would last fully as long, and keep brighter.—Ed.]

DO BEES GATHER propolis only after seeing some spot that needs it, or do they bring in a load and then put it where it will do the most good? The last idea is somewhat favored by the fact that, in the fall, smooth surfaces are varnished with propolis.

THE PROSPECT. June 3. Cool and cloudy. Lots and lots of clover bloom, lots of bees, but no storing. Is there no nectar in the flowers? I'm hoping for a turn in the weather, and still expecting a crop. [The turn has come here, but our expectations are on the basswoods loaded with buds.—Ed.]

DON'T FORGET, Ernest, that, while a $\frac{3}{8}$ top-bar "may be a little more proof against burr-combs" than a $\frac{5}{8}$, it is also "more proof"

against dark capping of sections. [Perhaps so; but when we tried to force the $\frac{3}{8}$ -inch-deep top-bar on our customers they just wouldn't have it.—ED.]

A REMARKABLE CASE of fidelity to a queen is reported by R. Wilkin. March 19 he found a queen alive in a hive, the queen having been left there caged last October. Glad to get that point, for I always supposed the queen was left to shift for herself during winter; but plainly the bees fed this queen five months in her iron prison.

WHY DO PEOPLE insist that my queens won't work in two stories? I never said they wouldn't. Now a Florida Mann asks what kind of top-bars I used that stopped the queen. With top-bars $1\frac{1}{8} \times \frac{3}{8}$ my queens go freely from one story to another. But in a few cases I shut a queen in an upper story, and she sulked, and wouldn't lay outside the brood-nest.

A. B. ANTHONY thinks there should be a new word coined, to express in fewer syllables "extracting-super" or "extracting-case." "Super" generally refers to comb honey; but possibly it will do just as well for extracted, just as "surplus" refers to both kinds of honey. But if any one has a short name for "super for extracted honey," let's have it. [Suppose you coin one, doctor.—ED.]

YOU SAY, Mr. Editor, p. 424, "I do not remember that in any work in English this matter of the position of eggs . . . has been touched upon." That's because you don't read GLEANINGS. See last paragraph of page 348, where a direct quotation is given from Cowan's Honey-bee. Let's settle the question. [I give up. I read the article, but had forgotten it. But our bees seem to say there is no particular angle. Say, doctor, suppose you examine *your* combs and report your findings. Books don't always tell the truth.—ED.]

YEARS AGO A. I. Root taught that a frame of brood would prevent a swarm from absconding, while Doolittle insisted it would have the opposite effect. I wish they could come to an agreement, for I've an idea that, although generally the brood has the right effect, yet in some cases it works the other way. What do you think about it nowadays, G. M.? [My experience accords with yours, doctor. Sometimes when a swarm would leave a frame of unsealed larvæ I was strongly tempted to side with Doolittle; but then I concluded that the bees would have decamped in spite of any thing.—ED.]

R. L. TAYLOR reports in *Review* the result of five colonies wintered in cellar and five outdoors, supposed to be alike. Those in cellar consumed a shade less than 9 pounds each; those outside, a shade more than 18 each, and three of the latter died. That's strong testimony in favor of cellar wintering, and yet—and

yet—I don't know. [The outdoor colonies were "without protection," save that they were on the south side of Mr. Taylor's honey-house. If they had been put into double-walled hives packed, the difference in consumption of stores would not have been so great. We can winter outdoors in double-walled hives successfully, in our location, but if they happen to be in single hives the bees generally die; and, if they don't die, there is a heavy consumption of stores. The results of Mr. Taylor's experiments are quite what we should expect in our locality.—ED.]

SPEAKING of amalgamation, the editor says, p. 416, "The majority are opposed to having an international organization." How many times must you be told that the Union is already international, and always has been? At least 21 votes were cast for Canadians at the last election. Now will you please tell us just one objection that has any foundation in fact? [The organization is called the National Bee-keepers' Union; but, like some other national bodies, it extends its privileges to residents of other countries. In reply to your question, an international organization is too much of a good thing—too big to handle, and, what is more, bee-keepers of the United States don't want it, if letters to that effect that are continually coming in mean any thing. You know you can lead a horse to water, but you can't make him drink. You may advocate an International Bee-keepers' Union, but you can't make bee-keepers on this side of the line accept it, if I am any judge of the apicultural pulse. The North American, an international organization, has not been such a success as it ought to be. Already there has been some friction among the two factions represented by Canada and the United States. I refer, for instance, to the incorporation matter. The Canadians have entered no protest against making the Union a distinctly national body—one that can have annual meetings, and discuss apicultural questions. If you try to amalgamate there will be a "howl." Then why not make the Union what we want it to be, and let the North American stand as it is? This is the only course under the condition of things that is open to us, in my judgment.—ED.]



THE BOARDMAN PLAN OF FEEDING.

I have been greatly interested in the Boardman plan of feeding, to throw all the nectar into the sections. But right at the outset a great difficulty confronts me as to its adaptability to this climate. In January and Feb-

ruary the bees gather nectar, and build up on the manzanita, willow, alfilaria, oak, and the thousands of other flowers that are then in bloom. Now, if we fill up the brood-chamber with sugar syrup, all this colored honey will be thrown into the sections, and mix with and contaminate our sage honey, which begins to come in about the first of March, and is white honey.

Now, the question with us is, how to get this honey into the sections, and get it by itself, without mixture with our white honey from the black sage. Granulated sugar is now worth here 5½ to 6 cents by the barrel. At the rates that were paid here last year, this early amber honey (for it would be amber, supposing we could take it off bodily at the commencement of the white honey season) would bring but about 8 cents per pound. There is but about 2 cents difference between sugar and this honey. Will it pay here? Some of our honey is hauled long distances in wagons—from 25 to 100 miles. I have always figured that it takes nearly one-fourth of the honey to market the crop—that is, my crop—which I have to haul only 30 miles to tidewater. There are many men, away back in the mountains, who can not market their honey for less than about one-third of it. To feed sugar would increase the expense; but the presumption is that they would get more honey—enough more to make it profitable—to the extent of 2 cents per pound, less hauling the sugar out and the work of feeding it. In fact, counting loss of bees in feeding, work, and freight, I do not believe there is any thing at all in the plan, for this coast.

On page 329 P. H. Elwood pitches into Skylark in this ruthless manner: "Skylark, in a late number of GLEANINGS, laments the dense ignorance of bee-keepers; and, having the Rocky Mountains and his pseudonym to shield him, proceeds to hold up myself and Dr. Miller as examples because we do not happen to agree upon the amount of water to put with sugar for winter feeding. I do not object to sitting on the dunce-block; but when Skylark refuses me the company of teamsters, stockmen, and poultry-keepers because they are so much better informed than bee-keepers, I do object. The alleged superiority may exist in California; but is not acknowledged here where bee-keepers are recognized as intelligent as other agricultural classes. The assertion, that the classes mentioned agree, and are better posted than we on the feeding and care of their stock, is not true."

You see, Mr. Editor, he charges me with carrying a deadly weapon—a pseudonym—to protect myself. I give you my word of honor that I do not carry arms of any kind whatever—much less a pseudonym—which I should hardly know how to fire off if I had one. Now,

P. H., that was real mean in you to go and holler right out loud that I did not tell the truth when I told you in that same article I was not used to it. A fellow can't be every thing at once, anyhow. Mr. Editor, if I did not succeed in telling the truth I *did* succeed in bringing out a first-rate article from friend Elwood. If you have any other writers of the same sort, just prance them out and I will tickle them up.

BOX HIVES.

John F. Gates, in the *American Bee-keeper*, advocates box hives for breeding-purposes, 12x12 inches, and 2 feet high, with two sticks cross-wise about the middle of the hive—the old style of a hundred years ago. He says:

You see there is no frame, no comb guides, nothing in the hive but two cross-sticks, and right there is where success is commenced; for the bees are not compelled to follow out any unnatural method as they are obliged to do when on frames and starters; but they are at liberty to build their combs in their own natural way, and will richly repay you for giving them the privilege.

Are straight combs and starters unnatural? Bees build straight combs often, in trees, caves, and under projecting rocks (in this State), and that in the open air. Now, if their general desire be to build straight combs in a state of nature, why is it *unnatural* for them to follow a comb guide along a top-bar? This passion for box hives and cross-sticks is delusive anyhow. It is likely to lead back to brimstone and fire, and I don't like that. The very idea makes me shudder. If a comb 1 foot wide and 2 feet deep is such an excellent thing, why not make frames of that size and hang them in the hive? A door the full size of the hive could be made at the side or back, so they could be examined when necessary. If the cross-sticks are to strengthen the combs, so would a cross-bar in the middle of each frame be equally efficient. No bee-keeper will believe, without the most absolute experimental proof, that straight combs are any impediment to raising a rousing swarm of bees. If there is any thing at all in this plan, it is not in cross sticks or box hives, but in the deep combs. A bee, not having any undeveloped intellect at all, doesn't know whether it is in a box or frame hive—doesn't know a cross-stick from a straight frame. There, now.

A NATIONAL HONEY EXCHANGE AND UNION.

What are you fellows about there in the East, anyhow? Are you all asleep, or like the sluggard, saying, "A little more sleep, a little more slumber, a little more folding of the hands in sleep"? Wake up, for the hour of your deliverance is at hand. But it will not materialize unless you wake up to receive it. There is inexplicable division among you—thrice divided. One party cries, "Amalgamation! it is a specific for all our woes." Another answers, "No, never! shall we amalgamate and

lose our capital of \$700 to join an effete institution that has only \$7 in its treasury?" Still another party wants a national bee-keepers' association, representative in character, apparently with no objective point at all. In the mean time all stand round crying, "Hurrah for the prosecution of adulterators! Hurrah for a honey exchange that will cut off all middlemen, both in buying our supplies and selling our honey! Hurrah!" Mr. Editor, let us go to bed and take a little rest. These fellows may do something in the twentieth century.

The Union is already organized, and has \$700 in its treasury. Some of the members are very much afraid of losing their capital. Has it ever occurred to them that that much money would not prosecute to the end one single well-contested suit?

Now, I see a way they can save their capital and get thousands of dollars more. Let the directors of the Union put the following questions to vote: §

1. Shall we add to the present object of the Union that of the prosecution of all adulterators to the bitter end?

2. Shall we add a department, something on the plan of the California Honey Exchange, for the furnishing of supplies and sale of honey?

This would be protection indeed. The whole of these objects are protective, and why should they be divided between two or three societies? Do you suppose there is an intelligent beekeeper in the land who would stay out of that Union and Exchange? Many men, like me, don't need the *present* protection of the Union, and therefore don't join it. I live in the hills, where the sun goes to bed at 3 p. m. in the winter, and never thinks of getting up for breakfast. I have five or six neighbors, scattered in these hills. Nobody else can get near me, for there is no tillable land. I don't need protection for my bees, but I *do need* it against adulterators and middlemen, both in the purchase of my supplies and the sale of my honey. I would join the Union for either of these latter objects, and there are thousands of men who would do likewise. Do you know what the California Exchange did? As soon as it was organized it "knocked the stuff" out of the price of sections at one fell blow—cut down the price to its members, from \$3.50 to \$2.50! Is there a single gigantic idiot in the country who can not see the advantage—the clear money profit—of belonging to such an institution? So it would be with the Union. It would spread its protecting shield over its thousands of members, not only with its present beneficent object, but in the purchase of supplies and the sale of honey. It would also settle the question of adulteration in the United States for ever. What more do you want? Give us an open road and a clear track and we'll make 90 miles an hour to peace, plenty, and happiness.



HONEY AS FOOD AND MEDICINE.

A REMARKABLE CURE OF DYSPEPSIA BY THE USE OF HONEY.

By Elias Fox.

At the age of 13, in 1867, I contracted that terrible disease known as dyspepsia, in apparently its worst form, and my appetite seemed to crave nothing but sweet. I often ate a pound of stick candy at a time, or more of maple sugar in the spring. Not being able to do very much heavy work it fell to my lot to boil the maple sap; and when "sugaring-off day" came I had a feast of which I repented many a time later on. But that made no difference. My appetite craved it, and eat it I would, as I always felt temporary relief after satisfying my appetite with sugar, candy, sweetcake, or preserves; and thus it ran on for years, growing gradually worse all the time, notwithstanding I was taking medicine of some kind all the time.

After a few years my father bought a colony of bees in a box hive, and of course they swarmed as often as they liked. Sometimes he would have from ten to twenty hives, and on the strongest ones he would put a small box; and if the season was favorable he would get a few caps filled; and while this lasted I would eat as much as I could get, although it was only about half what I wanted; but no matter how much or how little I ate, it did not seem to have the bad effect that other sweets did. Then when fall came, all light swarms had to be set over the sulphur-pit and smothered; and this, being a sort of puttering job, also fell to the "dyspeptic." Well, I would kill from two to six or eight colonies, and, of course, after the sulphuring was done, it was necessary to remove the honey from the box hives, and I did not wait for this job to fall to me, but I fell to it; and then if any mortal ever feasted on honey it was I. I never weighed what I ate, but I would eat about all the time; and I know from the bulk that there were times when I ate three pounds. Many will ask, "Were you not ashamed?" so I will answer it now. I was not at that time, but I have been since, and am actually ashamed now to submit it to print; but it is a fact just the same; and the beauty of it was, that, no matter how much or how often I ate of it, it never once in my life left a bad effect. I always felt well after eating it; and it seemed that, the more and oftener I ate it, the better I felt. But, of course, this was only once a year, and generally the supply was exhausted ere the winter was half gone. But I remember once my mother strained a six-gallon jar full, and secreted it for company. It was some months ere she thought it necessary to resort to her sweet treasure; and

when she did she found it "evaporated" to within an inch of the bottom, and the evaporation was a small wooden paddle.

The bees were left on the summer stand, and straw packed around them, and there would usually be from one to six to survive the winter, until finally the survivor perished with the rest; then, of course, my feasts were at an end; and it is a fact that I grew steadily worse until the spring of 1882, when I was compelled to leave the farm; and when I settled in this village at that time I weighed 132 lbs., and hadn't closed my eyes for ten months without laudanum or morphine. I could eat nothing that did not hurt me. As for beans, onions, or pork, I might as well have eaten strychnine; and even food as light as corn starch, hulled barley, oatmeal, or, in fact, any thing, seemed only to aggravate the disease. Well, I traded an old harness for two colonies of black bees in box hives. I put some boxes on top, and the season was good. I got quite a little honey, and in the middle of the summer I commenced to gain in strength and flesh, and soon could sleep without narcotics. The next spring I transferred my bees and their increase to frame hives, and Italianized them; and since that time I have never been without honey on my table (although I eat much less than three pounds at a meal). I have never taken a drop of laudanum or morphine since, and I can eat beans, pork, onions, or honey, with impunity. My average weight is now 175 pounds.

We have a young man here in this village who was troubled with dyspepsia; and the more medicine he took the worse he became. I advised him to try honey and graham gems for breakfast, telling him of my experience. He said, "Bring me up some and I will try it." I did so, and he commenced to gain, and now enjoys as good health as the average man, and he does not take medicine either.

I attended the bee-keepers' convention at Madison, Wisconsin, several years ago, and Dr. Vance, of that city, read an essay on honey as food and medicine, and in his remarks he said that honey is the only food taken into the stomach, that leaves no residue. He claimed that it requires no action of the stomach whatever to digest it, as it is merely absorbed and taken up into the system by the action of the blood. I sincerely believe that honey is the natural foe to dyspepsia and indigestion, as well as a food for the human system.

Hillsborough, Wis.

[There are many instances on record showing that honey is the most wholesome of any of the sweets. Indeed, our best physicians are now recommending it to those who can not eat ordinary sugar or syrups without distress, but who can take honey without inconvenience. Prof. Cook, backed by some other scientists, has long held that honey is digested, or partially digested, nectar. That bees certainly do something to it while it is stored temporarily in the honey-stomach can not very well now be

doubted; and the fact that honey can be eaten when other sweets can not, goes a long way to prove Prof. Cook's assertion.—Ed.]

CLOVERS IN ABUNDANCE.

OPENINGS IN SECTIONS; HOW WIDE SHOULD THEY BE?

By C. Davenport.

Never, within my memory, have clovers of all kinds, at this time of the year, looked as promising as they do now. I for one should like a crop of clover honey this year. We had none last year, and hardly any basswood either. On this account I had a good many of those 1000 sections left over—perhaps as many as I shall need; but in order to be on the safe side I ordered 4000 from your Chicago branch a short time ago, just two days before the last drop in prices.

Now, I should like to make a few comments on the way these sections are made—not only yours, but others' as well—for I believe nearly all the principal manufacturers now make them just the same as you do. Perhaps I should say that I have never had any sections of your make before. Those I ordered were No. 1 white, open top, standard size. They are the finest and most accurately made sections that I have ever seen; but they, as well as almost all others, have what I regard as a serious fault. They are not cut out enough at the top and bottom. As nearly as I can measure them they are cut out $\frac{1}{10}$ of an inch. Now, a loaded worker can get through a space as small as that; but with a space of that size in sections, the bees are liable to fix them so they can not crawl through; for I believe there are no sections made that are perfectly smooth on the edges; and when a super is put on too soon the bees will sometimes put so much propolis on these rough edges that I have had them practically exclude themselves from some of the sections when using those that were cut out only $\frac{1}{10}$. Of course, this could not happen when using T tins; for the tins prevent the separators from dropping down and dividing the space between the sections; but with section-holders it is different. It is true, that scalloped separators are used to prevent, thus dividing the space between the two scallops of the sections; and if they are scalloped $\frac{1}{2}$ inch deep on the bottom they will work all right; but when using section-holders the separators are supported only at each end, and one or both of the projections at the end of the separators are very liable to be broken partly or entirely off, in which case the separator, of course, drops down and thus divides the space between the scallops of the sections; and if these scallops are only $\frac{1}{10}$, that is as much space as the bees have to get in the sections; and while, as I have said, they can get through such a space, from experience I

know that, when they have to, they will not enter the sections as readily, nor work as willingly, as when there is a large opening. I think that, with me, zinc between the brood-nest and supers reduces the amount of section honey stored, by nearly a fourth. With T tins, possibly $\frac{17}{100}$ is enough for sections to be scalloped out. Still, I much prefer to have a larger opening so that, when using T tins, I can have the separators wide enough to reach clear to the top of the section. I never use any thin strips between the rows. Before using T tins I lay them on a square-edged iron, and, with a hammer, pound the folds of the tins so tight together that there is no need of strips between rows. But I prefer section-holders to T tins for a number of reasons, and believe I can fill two supers, fitted with section-holders, with sections quicker than any one ever did or ever can fill one super fitted with T tins, either nailed or loose; but section-holders—or, at least, mine—have one serious fault. Mine are all made of basswood, and they warp, some up and some down.

About the most satisfactory supers, all things considered, that I have ever used, are some I had made about like the dovetailed T supers you sell, only mine are the same depth as the regular section-holder super; and in these I use the regular section holder, bottom slats loose, without the end-blocks or bars. If these loose slats warp, by turning the bow up after the super is filled and wedged up tight, the sections can all be pressed down perfectly even, and the wedge can then be driven tight enough to hold them in place. Thumb-screws would be nice for this. With these supers I use plain separators, but wide enough to reach clear to the top and bottom of the sections, which were scalloped out full, or over $\frac{1}{4}$ inch. The bees work in these supers very readily. The sections are kept the cleanest, and the combs are built straighter and nicer than they are in any other kind of super I have.

From quite a good deal of experience in the matter, I believe that bees will work much more readily in sections, no matter what kind of super is used, if the sections are scalloped out full $\frac{1}{4}$ inch at both top and bottom. I believe that, if the merit of the super I have just described were generally known, it would largely supplant all others. It has all the merit of the regular dovetailed super, and some decided advantages. The slats are much easier to clean and handle, without the end-bars; and, being shorter, they are not so liable to sag or warp; and if they do, then, by the method I explained, the matter can be easily remedied, especially if the supers were fitted with thumb-screws. They are fully as easy to empty when full. There is no space whatever between the sections endwise and the regular slotted or scalloped separator; but shorter ones could be used, I think. I shall fit up all those Hilton T supers I got of

you, in this way; for to make them the right size, it will be necessary only to nail quarter-inch strips on the upper edges.

Southern Minnesota, May 7.

[The openings in our sections are intended to be $\frac{3}{8}$ of an inch; this would make $\frac{1}{16}$ for the two openings. There was a time when ourselves and many others made them narrower than this; but we were among the first to increase the width. If you look over more of these sections I think you will find they measure more nearly $\frac{3}{8}$. I have just been down and looked over our stock, and measured quite a lot, and find they are all exactly of this measurement. A very light shrinkage, however, in your case—that is, of sections that were kept in stock at our Chicago branch—might account in part for the difference in measurement.

We can just as easily as not make the openings $\frac{3}{8}$, or wider if necessary; and I am sure all the manufacturers would as soon make it one width as another.

Your super, if I understand you, is not a T super at all, but is simply a case long enough to take in four rows of sections, and deep enough to take in the sections and pattern-slats, and yet allow a bee-space. Where there are no end blocks or pieces the pattern-slats are liable to get out of skew; and the consequence is, openings in some cases, not coming together in exact alignment, are made very much narrower—the very thing you do not want.

We have made for years supers having mere pattern-slats to hold up the sections, but finally abandoned making them the last year or two because nobody wanted them. The objection seemed to be on account of the slats not coming in alignment with the sections, as I stated; but in the case of the section-holder arrangement, the separators drop down between the slats, and are held in position by the end pieces so the sections must necessarily come squarely over the slats.—Ed.]

HOW ADULTERATION AFFECTS CALIFORNIA.

ITS BANEFUL EFFECTS ON THE HONEY TRADE IN PARTICULAR; ADULTERANTS THEMSELVES ADULTERATED.

By C. H. Clayton.

The government scientists tell us that almost every article of food in use is adulterated with some inferior substance which is either positively harmful or merely of inferior value. In looking over their reports one is astonished at the lengths to which this shameful business is carried. Much of the communion wine which is used throughout the country is made by fermenting moldy raisins and decayed currants. Sugar and sand are familiar mixtures. It is said that there is a substance on the market sold as powdered cinnamon, consisting entirely of pulverized cigar-boxes, flavored with an essential oil. Of 200 samples of chocolate tested, only 20 were found to be pure. And so the list continues, embracing hundreds of articles of daily use. That adulteration is wellnigh universal is a known fact; but it is very difficult to fix the guilt upon the culprits. In order to receive attention in a court of law, charges must be spe-

effic, alleging time, place, etc., and be supported by competent evidence.

To the best of my knowledge there has not been a single instance here in California where these conditions have been met. I myself have repeatedly asked parties charging adulteration of honey to furnish particulars, and names of witnesses, in order that at least an effort might be made toward having the guilty ones punished. I generally get nicely snubbed, too, for thus (by implication) doubting the word of the accuser.

"What! witnesses to prove adulteration? Don't I say so? Do you doubt my word?"

No, my friend, I don't doubt it. I regard you as a man of veracity; but even *your* unsupported testimony will not secure a conviction.

"Well, I am not going to waste time hunting witnesses. I have told you that adulteration is practiced. Now you go ahead and stop it;" and straightway he sits down and writes an article for the bee-journals about how prevalent the practice of adulteration has become.

California has a law to "provide against the adulteration of food and drugs," and also a law, crudely drawn as to phraseology, defining what shall constitute "pure extract of honey" (whatever that may be). Our law makes it a misdemeanor to "manufacture for sale, offer for sale, or sell any drug or article of food which is adulterated within the meaning of this act." The meaning given in the act, as to food, is: "If any substance or substances have been mixed with it, so as to lower or depreciate, or injuriously affect its quality, strength, or purity."

This, standing alone, would appear to be sufficient; but further on in the same act we find this exception:

"*Provided* that the provisions of this act shall not apply to mixtures or compounds recognized as ordinary articles or ingredients of articles of food if each and every package sold or offered for sale be distinctly labeled as mixtures or compounds, with the name and per cent of each ingredient therein, and are not injurious to health." These six concluding words of the exception provide the loophole for adulterators of honey. Glucose itself is largely adulterated; but, so far as I know now, pure glucose has never been held to be injurious to health. No one is specially charged with the execution of the law, and it seems that "what is everybody's business is nobody's business."

What we need is, first, a pure-food law, stringent in its provisions and national in its application; second, officers in each State and county, specially charged with its execution; third, a "campaign of education" directed to the dealers in honey, from the jobber to the retailer. Bee-keepers should take a deep interest in every step directed toward the prevention of adulteration of food products, for they must see

that, in the rapidly increasing manufacture of adulterated honey, it is a question of but a very short time until their industry will be destroyed.

Glucosed honey is placed upon the market by enterprising but unscrupulous dealers, and they have flooded the market now to such an extent that I am told it is in many instances impossible to buy any thing else, as the margin of profit is so large on these goods that the dealer is tempted to force the trade on them, although he thereby restricts the sale of honey, adulterated or pure. I have no hesitation in saying that the consumption of honey is restricted and diminished by the sale of the glucosed article.

In 1886, Southern California sold about 5000 tons, at an average price of \$120 per ton, or \$600,000. We have decreased year by year until now our production may not exceed 3000 tons, at an average price of \$80 per ton, or \$240,000—a falling off in money value of \$360,000. When you consider these figures they are significant, and there must be some reason for this falling-off both in prices and production. I think the principal reason is in the discredit which has been cast upon our honey by the introduction and sale of this glucosed honey to the consumer. At first the buyer is deceived; the honey does not taste the same to him, and gradually it dawns upon him that adulterated honey has been sold to him as the pure article. What is the consequence? No consumer ever goes to the store and asks for a can of glucosed honey. He asks for a can or more of honey. The "doctored" stuff is handed to him. It has the semblance of honey in make and color, and he believes it to be honey. When he and his family partake of it there is but little taste of honey. The fine flavor and delicate aroma of the pure article are lacking. The result is, it is distasteful to him, and he buys no more. Thus the sale is restricted by the avarice of the retailer.

It may be claimed that glucosed honey is sold for what it is. Perhaps it is by the jobber, and perhaps the retailer buys it for what it is; but the retailer never sells it to the consumer for any thing but pure honey. Now, the continued manufacture and sale of this article means the ultimate total extinction of the industry, so far as extracted honey is concerned. And the total extinction of the extracted-honey industry will be of no material benefit to the comb-honey producer, because comb honey can not be produced at prices the masses can afford to pay, but will always be an article of at least semi-luxury. So, in addition to laws strictly enforced as to those who will not learn, we should labor to convince the dealer that his interest lies in the direction of pure honey.

Lang, Cal., May 9.

[It may be that there is such a thing as wooden nutmegs, cinnamon made out of pulverized cigar-boxes, etc., but it is hard for me to believe—almost as incredible as that there are

such things as artificial eggs that would hatch chickens without feathers.

Food-laws are being enacted in nearly all States, and old laws are being better enforced; and while I admit there is a chance for *great improvement* along the line of more and better laws in all States, and better enforcement, I do not—can not—believe that adulteration is so ripe as set forth in your first paragraph.

There is no doubt that adulteration is doing its work in reducing the price and in cutting down the production of honey, and bee-keepers need to organize in some form of exchange or union to battle with these evils. If our present Union can be reorganized so as to become a deliberative body with annual meetings, and if, too, in some way it can be made to turn its gun (\$700) toward our legislative halls for new and better laws with provisions for their enforcement, then bee-keepers can do something besides talk, talk, talk. The defense feature in the old Union is a dead issue, or ought to be. What we need is some work done to put down adulteration.

Regarding the matter of enforcement, it is difficult, as you say, to secure convictions; but if the State provides or will provide a fund so that officers are *paid to hunt up evidence*, convictions will follow.—Ed.]

THE VALUE OF DRAWN COMBS IN SECTIONS.

TWO STARTERS, AND HOW LARGE TO CUT THEM.
A TIMELY AND VALUABLE ARTICLE.

By B. Taylor.

In reply to the questions of Deans & Merrill I will explain that the chief reason for using two pieces of foundation in each section is, that thereby we can induce the bees to build the combs solid to the bottom as well as the tops of the sections. When a single full sheet is used, the pieces must not come nearer than $\frac{1}{2}$ inch of the bottom of the section, because the foundation stretches as the bees work it out; and if the pieces come near or touch the bottom there would be no room for it to stretch; yet, settle it would; and to find room it would buckle to one side and make the surface of the honey untrue. I now have all my comb honey built solid to all parts of the sections. The comb is finished to about $\frac{1}{8}$ inch from the edges of the sections, and sealed solid clear up to the wood; and the surface of the combs is as smooth and true as a planed board. I do it by using full sheets of foundation in two pieces, in connection with narrow sections ($1\frac{1}{2}$ inches), and the handy slotted and cleated separators; and the three means here mentioned are all vital if we are to be certain to have perfect work.

Section honey produced in this way not only looks extremely nice, but, if crated and packed properly, it may be shipped by freight in 100-pound lots or over, with the greatest safety. Now, mind you, this fine finished honey does not cost one farthing more to produce than the miserable, ragged, half-sealed stuff that is to be found in every city and country store. It is true, the handy slotted separators cost each

more than common tin or wood ones; but as I use only three of them in a 24-section T case, and as a set of them will, if made as my own are, and used with proper care, last a lifetime, they are cheaper than those in common use in the end.

Some bee-keepers use and argue for starters of foundation in sections because of the cost of full sheets. I never count the cost of producing a crop of honey except in connection with the profits. If, at the end of the season, the balance is on the right side of the ledger, I care not for outlay; and, friends, I will here tell you that old stingy cheap ways of doing things are past, never to return. I shall use more than \$100 worth of sugar in my apiary this season, and I expect to produce gilt-edged honey at less cost than old-fashioned cost-fearing bee-keepers will produce their poor goods.

In using two pieces of foundation I cut the bottom piece $3\frac{1}{2}$ inches long for $4\frac{1}{4}$ sections and $\frac{1}{2}$ inch wide; and I prefer heavy foundation for these bottom pieces, so it will not lop over when warm. The top piece is cut the same length, and wide enough to come $\frac{1}{2}$ inch from the bottom piece. This is necessary to give the top piece room to stretch in working out; and I fasten the foundation with melted wax in a way that it is sure to stick, and exactly in the center of the section.

Before closing this article I must say a word in regard to the importance of sections of drawn combs in securing the white honey in sections. In that splendid article of W. Z. Hutchinson's, on "Producing Comb Honey," in the *American Bee Journal* for April 16, 1896, he says:

If the flow should open very suddenly, or, at least, become very profuse soon after it opens, sheets of foundation in the sections *may* be as good as drawn combs; but when it comes on gradually, drawn combs, or, at least, a few sections of such in each super as "bait," as it is called, are a decided advantage. If I could have my choice, however, I should be glad to have all of the sections in the first super filled with drawn, or partly drawn, combs. I have seen seasons in which I was well satisfied that a case of partly drawn sections of comb to give a colony at first meant *just one more case of finished honey*. A colony given a case of combs would have those combs filled, and be commenced upon a second case of sections by the time that a colony given simply foundation had made a start. This difference is more noticeable with Italians than with blacks. The Italians cling to the brood-nest until actually forced out of it. If a bee hatches, and the queen doesn't stand ready to put in an egg, it is quite likely to be filled with honey. Give such a colony a case of sections filled with partly drawn combs, and the bees will store honey in the combs just about as readily as in the combs below—a long time before they will draw out foundation in the sections. Combs in the sections relieve the pressure upon the brood-nest. More brood is the result. Yes, and it starts the bees to storing above the brood-nest, and, having made a start, they are sure to continue it. Considering the value of drawn combs for this purpose, I should not try, to any great extent, to restrict the number of unfinished sections at the end of the season.

While I regard Mr. H.'s article as a whole as one of the best that has ever appeared on producing comb honey, yet I am quite sure he has

made some slight mistakes, and I will point them out. I have had more experience, doubtless, in using drawn combs in sections than any other honey-producer, and I know that brother Hutchinson is wrong in saying, "If the flow should open very suddenly, or, at least, become very profuse soon after it opens, sheets of foundation may be as good as drawn combs." After years of experience I know there is no time in which drawn combs can be used to such good effect as at the rush that comes with the opening of the basswood harvest. This seldom lasts more than two weeks—often not more than one. The workers for extracted, with their ready combs, get great yields in these few days, and comb-honey producers can secure the same large results by the same means—having ready drawn combs to store the rush of nectar in without delay in building new store-houses. I believe Mr. H., when he stops to think, will agree to this correction. Again, Mr. H. says:

Two courses are open by which these unfinished sections may be used to advantage. One is that of "feeding back" extracted honey to secure their completion, and the other that of using them in the spring as just now indicated. In the latter case they must be extracted in the fall, and the bees allowed to clean them up. After this they must be kept away from the dirt and dust. I prefer to "feed back" and secure the completion of all sections that are at least one-half completed. Those less than one-half finished I would extract and keep over to use in the spring. When combs that are nearly completed are kept over and used again, they will not have the smooth, new look of those just built, or of those that were not more than half completed the previous season. The remedy is to use the comb-leveler invented by B. Taylor. This very quickly and satisfactorily reduces the length of the cells to the required depth, which results in a smooth surface when the comb is finished.

Thanks, friend H., for your kindly mention of the "Handy" comb-leveler. I know every comb-honey producer will appreciate it after a fair trial; for with drawn combs, and the leveler to prepare them for use, I can not only have the surface of the finished honey smooth and even, but capping will be as white and clear as combs built on starters, and the white honey can be greatly increased. In the present condition of the markets, dark comb honey can not be sold with either pleasure or profit. Gilt-edged white honey is where the profit is to come from in the future. Mr. H. says, "I prefer feeding back." With my present experience I could not be induced to fuss with the uncertain expedient of feeding back, for I can sell the fine extracted honey I get from cured unfinished sections for nearly or quite as much as the same honey would sell for after being finished; in fact, I would not have them finished at any increased work or expense, for I should thereby lose the opportunity of using them next season with far more profit and less fussy work, and I am quite certain Mr. H. will come to the same conclusion whenever he gives the drawn combs a trial in either a big or little honey-flow. I agree that supers entirely filled

with drawn combs are just the thing at the beginning of the white-honey flow, and I positively know they are equally good near the close, for I have, year after year, given the colonies cases half filled with drawn combs and half foundation near the end of the basswood, in which the drawn comb was filled and capped; and the foundation, although in the center of the case, was left entirely untouched. If I had sufficient drawn comb I would use them exclusively during the white-honey season, at the beginning, middle, and end; and by giving the colonies, after the basswood season is ended, cases of sections filled with foundation, in the way I have directed in this article, they will draw out thousands of them during the fall flow, which can be extracted, and the combs be used the following season, to get as much white honey as can be got by using starters or full sheets of foundation during the entire season of white and dark honey. The dark honey extracted will, in such case, be that much clear gain. It can be used with great profit to stimulate brood-rearing the same fall or next spring, or it may be sold for manufacturing or other uses.

Forestville, Minn., April 20.

[If this does savor a little of free advertising of the Handy comb-leveler, it is all right. I believe it is a good thing, and bee-keepers should more generally know of it as a money-getter.—Ed.]

SUPPLYING THE HOME MARKET.

A CONTINUATION OF THE SUBJECT.

By F. A. Snell.

Town designated as No. 3 is distant from my apiary 13 miles, and had at one time within its borders, and near by, fully 500 colonies of bees. Owing to the large number of bees kept, and oversupplying this market, the price of honey ruled low. If some of the honey produced there had been marketed in adjoining towns, paying prices might have been maintained; for the amount of honey produced in or near the other towns was slight. Many times the low prices realized for honey are our own fault, and are caused by the unwise or foolish distribution of our honey in marketing, as indicated above. Bee-keepers should consider this matter thoroughly from the Atlantic to the Pacific. We see some of our large cities overstocked with honey nearly every year, while other good markets are hardly considered. At present the town mentioned above has within its borders but few bees; but the people have come to think that they should not pay over 10 or 12 cents for the finest comb honey in section boxes; or a large portion seem to at least. I never sold or attempted to sell any honey in that town until recent years, for two reasons.

First, the market belonged to my bee-keeping friends living there; and, second, the prices did not suit me. Having a little other business I thought to supplement it by taking along a few cases of comb honey and a few cans of extracted on this my first visit as a honey-seller.

On my arrival I drove up to a grocery, and tied my horse. The grocer was just placing some newly arrived peaches out in front of his store. After a little conversation as to the fruit I told him I had brought some honey to town and would like to have him look at it. I took a case of comb honey from the buggy, and placed it near him where it could be inspected. The honey through the glass looked tempting. I removed the cover, then took out a few boxes for his inspection. He said he had never seen any neater honey than that, and it was well put up. Three or four townsmen came up and looked at the honey. He asked me what I was selling it at. I told him 15 cts. per pound. He said he had no fault to find with the honey; but when honey had to be retailed at over 12 or 15 cents it was slow selling in their town.

I informed him that, in the other towns, I was selling at 15 cts., and no complaint. He declined to take any. I then had him sample the extracted. He thought it fine. I gave him the price, stating that no one should find fault with the price he could sell this at; but my efforts with him were apparently in vain.

Right here I wish to say that, in this town, those new in the extracting business had, years before, taken unripe honey from their bees, and sold it, which had nearly ruined the sale of honey in this form, as it fermented, and was not fit to sell as honey.

I next called at grocery No. 2. Finding them busy I waited until they had a little leisure. I noticed an old case containing, perhaps, twenty-five 1-lb. sections, all daubed with propolis, sections and combs dark, looking as if they had been in use many years. The combs were only partially filled with honey, and, of course, not capped. At a leisure moment I made my business known, and I secured their permission to bring in a case of my honey. It was viewed through the glass readily. I removed the cover and took out some of the boxes for their inspection. The honey suited them. My price was asked and given.

"We have some comb honey over here," showing that first noticed by me on entering their store. I asked who produced it, and learned that he was an old friend, and a man of intelligence quite above the average. I knew him to be, as the reader knows well, not made for a bee keeper. At first I sold them one case of the honey. I stated that I should not be in with honey that season again, and would think they could readily sell more, but that they were to be the judges in that matter. They took one more case, thinking also that

they could do so. As they had a supply of extracted I made no sale, but let them sample my own. The price was 15 cts. per lb. for the two cases. I left, with the encouragement of probable future sales.

The next grocery was visited, and I found it unsupplied with honey; so I effected a small sale of comb and extracted, and I shall try to supply that store with honey in the future if I am so fortunate as to get a crop of honey.

Two other grocers were called on, but no sale effected, as it was claimed by them that they could not sell the comb honey at any profit. A little extracted honey was on hand in one of these stores, of a very inferior quality. My own was sampled, and seemed to please; but that on hand must go before more was bought. A few cans of the extracted were sold before leaving town, to private parties, for home use.

Where I have made sales of any consequence of extracted honey at the stores I have not retailed; but if no honey could be sold at the stores I have felt free to retail it in any such town, either in or out of the comb. The results of the day in selling honey were limited, but the start had been made in opening up what may prove to be a fair market for honey near home at fair prices.

Milledgeville, Ill.

ONE OR MORE EGGS IN A CELL, FROM A GOOD QUEEN.

Dr. Miller:—I have a queen which, last season, was one of the best ones I had—large and very prolific. I examined the colony to-day, and at first thought the queen was dead, and had a laying worker, as I saw in some cells two and in some three eggs. Still, the cells that were capped were worker-brood capping. On careful examination I found the queen large, and a beauty. What is the reason of two and three eggs in a cell? They are not all so; but in two frames I discovered I should think fifty or more.

GEO. L. VINAL.

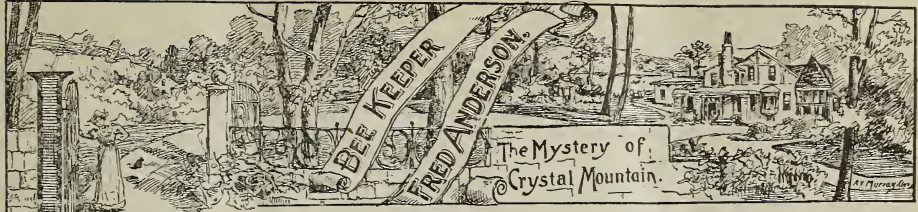
Charlton, Mass.

[Dr. Miller replies:]

It is possible that the number of bees in the colony was not large, and that the queen, being very prolific, could lay more eggs than the bees could take care of; in which case, rather than lay outside the brood-nest, she would lay in cells already occupied. If the colony was strong, and there were plenty of cells without using each cell more than once, then I should say it was one of those abnormal cases that one doesn't account for—simply knows their existence without knowing the reason. Among other possibilities is the one that there may have been a change of queen; and young queens, when they commence laying, are inclined to do exceptional things.

C. C. MILLER.

Marengo, Ill.



IN spite of the uncomfortable feeling of misfitting clothes, Fred passed a very pleasant evening with his new acquaintances. Mr. and Mrs. Buell had both been teachers in the public schools, and had surrounded themselves, even in this retreat, with many of the luxuries of life—books, musical instruments, and works of art.

"We have but little use for all these things now," said Mrs. Buell, with a sigh. "Our dear child has no desire for the things she used before she was injured, and music and art have no charms for the rest of us."

Fred saw that it was their habit to dwell much upon their affliction, and, taking up a guitar that had evidently been unused for some time, remarked that he could thrum the strings a little, and would play if they desired. Securing their cordial assent he tuned the instrument, and sang several old familiar songs, selecting lively airs; and every nook of the house was enlivened and cheered by the music. As flowers show a brighter hue in the pure sunshine that follows a shower, so the faces of all present wore a more cheerful aspect after the instrument had been laid aside, and topics of the times were discussed with animation. Alfaretta listened with as much interest as she would to any agreeable noise, and would now and then sing her little song, "My lover is on the sea," etc.; and it was rendered as though there was a sad wail behind it. She was otherwise quiet under the eyes of her parents; and any attempts on her part to dub Fred as "Mr. Pickerel" were promptly checked by Mr. Buell, and he would bid her say Mr. Anderson, so that, finally, she seemed to forget the name so appropriately applied, and to address him by his right name. At an early hour she retired; and when Fred was shown to his room, Mr. Buell said, "You need not be surprised to be awakened early, for our daughter will be out and singing her song before it is fairly light."

The morning song, however, when it came wailing through the shrubbery, found Fred awake. He had slept fitful naps, and dreamed

fitful dreams. The burden of them all was Alfaretta. His generous heart longed to do something that would recall the wandering mind, and place it again in the realm of reason.

The morning duties all performed, and Fred finding his clothing dried, he was glad to get into it again.

Having made his errand known to Mr. Buell the previous evening, the latter said that he had been contemplating a day's outing up the river with his wife and Alfaretta, and he might as well take it now as at any time. "We can land you nicely on the ranch, for Mr. Ghering lives only three miles up, and on the opposite bank of the river."

Mr. Buell, however, cast a shade of anxiety into Fred's mind by saying that he was quite sure that Ghering had no apiary unless he had recently invested in such live stock. "Seeing is believing," said he, "and we can soon put you where you can investigate."

While Fred was waiting for the family to gather at the landing he had time and inclination to view the surroundings of this sad home. He observed that Mr. Buell had not been idle,



"MR. ANDERSON, PAPA IS READY."

for the grounds were tastefully laid out in walks and drives; and where they led near the river bluff, rustic seats were arranged; rare shrubs adorned other places; and the house,

part adobe and part of more modern architecture, had a fine setting of sycamore-trees behind it, while the climbing rose hid a corner of the white adobe, all making a picture of loveliness. Too many times had he in this journey up the river seen some of nature's beauty-spots marred by rude cabins with unkempt and repulsive surroundings, and this, too, in a country where the vine is ever striving to hide the deformities of nature, and is ready, if merely planted by the hand of man, to cover the rough boards of cabin or fence, and make them things of beauty.

As Fred turned his gaze toward the flowing river the episode of the previous day came to mind, and he reflected upon the ease with which one will forget recent experiences when something new and of absorbing interest takes possession of the mind; and Fred now found his whole nature absorbed in the beautiful surroundings, in the residence, and, above all, in the lovely inmate, though she was so sadly demented. With these thoughts in mind, and while looking far beyond the river into the blue unfathomed depths of a California sky, he felt as never before that the mystery of life and of love was fully as deep and unfathomed.

While thus absorbed, a hand rested lightly upon his shoulder, and a musical voice said, "Mr. Anderson, papa is ready." The action was so natural, the touch so gentle and so unlike the Alfaretta of the previous day, that Fred was thrilled as by an electric shock, and his hopes came rushing back from the unfathomed depths into which they had plunged. A moment later, however, the thrill was succeeded by a chill, for his companion said, "Fred-dy, see my teeth," and the uncanny grimace followed.

Without a word Fred strode determinedly to the little wharf, and insisted that he be allowed to row the boat. After some parleying Mr. Buell granted the favor. As he vigorously plied the oars he felt as though he would like to dig the whole river up; and as he sent the boat spinning through the water, his desperate looks and strokes caused Mr. and Mrs. Buell to exchange glances, as much as to say to each other, "I wonder if he is going crazy too;" but Fred had to find vent for his wrought-up feelings, and a mile of such rowing brought some relief; and at the end of three miles his turbulent thoughts had regained their wonted calm. Here at Ghering's Wharf Mr. Buell relieved Fred at the oars as they approached Ghering's Landing, and here he parted with the people who treated him with such kindness. A pressing invitation was given him to visit them soon and often.

As the boat drew away from the wharf where Fred was standing, Alfaretta waved a farewell, and sang again her well-worn song, "My lover is on the sea," etc. Fred watched them until they rounded the bluff, and then turned his attention to the new work in hand.

A short walk of five minutes and he was in front of Ghering's cabin. The evidences of bachelorhood were plainly visible, for the bachelor was preparing the noonday meal. The stove, table, and culinary utensils were all arranged under an awning of tules. A stranger on the ranch was evidently not an every-day occurrence, for the cook and three ranch hands who were just coming in from the fields looked with some curiosity upon the new comer.

"Is this Mr. Ghering?" said Fred, addressing the cook.

"Yes, sir, that's my name; and I'm a free and easy Pennsylvania Dutchman; and where do you hail from, if I may ask?"

"My name is Fred Anderson, and I am from the Pine-tree State."

"Let me see; that's North Carliny, ain't it?" said Ghering.



DINNER AT GHERING'S RANCH.

"Oh, no," said Fred; "it is Maine—I am from Maine."

"Yes, yes, sure; I ought to haff known that; but it's so long since I haff studied geography or even thought much of those distant Eastern States that I haff forgotten all I ever knew about them."

"Mr. Ghering," said Fred, "while in Sacramento I learned that you had an apiary for sale or to rent, and I have run up here to see you about it."

"Api-ery—a pi-ry—what in the dickens is that, any way? Say, Matt," said he, turning to one of the men, "what is an apy?"

"Sure, Misther Ghering, it's meself that can tell yees. It's a corral where they keeps all kinds of birds, agreeable loike—aigles, hum-

ming-birds, tomits, crows, hawks, hens, and—"honey-bees," said Fred, smiling.

"Yes, sor," said Matt; "that's it—any thing that has wings or feathers."

"In other words," said Fred, "and to speak more definitely, Mr. Ghering, I learned that you had a large number of bees in hives."

"Bees in hives?" said Ghering. "Well, now, if I don't call that shust gorgeous. Bees in hives! Mr. Anderson," said he, vehemently, "whoever told you so, told you von big lie."

Fred here produced and read the letter he had received from Royal Smith. The effect upon Ghering and his men was a shout of laughter. "Horses! horses again," said Ghering and Matt. When the merriment had subsided, Ghering said that Smith "shust ought to be tied to a mule's tail and trotted out of the country. He is always up to some shust that kind of joke. He sent my foreman here, Matt Hogan, to this ranch on a similar errand. He led Matt to believe I had a pair of horses for sale cheap, and I hadn't a horse on the ranch. I worked with oxen then, and the only horses I possessed were two saw-horses, and that's what Smith sent him after. But, Mr. Anderson, your case is a leedle not so bad, for there is bees on the ranch, but no hives;" and, stepping outside the awning, he pointed up the river. Said he, "Do you see that chalk butte?"

"I see," said Fred.

"Well, that chalk butte is full of bees, and you may haff every one of 'em. The butte is on my ranch."

Fred's disappointment was plainly manifest; and Mr. Ghering, being a kindly disposed man, said, "Mister Anderson, you can not get down the river 'untill to-morrow, and you shust take dinner with us, and then go ofer to the butte, where you will see the most bees in caves you efer saw. It is a wonderful show, and ought to be interesting to a lofer of bees."

Fred thought he might as well make the best of the situation, and, thanking his host, he sat down with the men at their repast. Not having an extra chair for his boarder, an old box was brought into requisition.

While eating, Matt Hogan would often smack his lips and say, "If we ounly had some of Mither Anderson's honey it would be foine."

Similar remarks from the other men kept up the merriment at Fred's expense through the entire meal. But Fred paid but little heed to their jokes. He answered them pleasantly, and, at the close of the meal, he aided Ghering in the clearing-up of the table and the washing of the dishes. Ghering complained about the time it took him to cook and keep house. A good many things were neglected in the house in order that he might keep his men at work.

When things had been cleaned up Fred started for the chalk butte, half a mile away. Ghering thought it would be more agreeable to him-

self to be on the other end of the ranch, "and," said he, "Mr. Anderson, you may haff the bees and I will till the soil."

There was not much spirit in Fred's movements, and he would not have even visited the butte but for his desire to see a California beecave.

The chalk butte was a peculiar river formation. Its surface contained about an acre, and was elevated some forty feet above the river, which made a great bend around three sides of it. The point that projected into the river was the highest portion, while there was a sag in the part that joined the main land, and it appeared as though the river ran here at some time in the past. A few sycamore and California-walnut trees were growing thriftily here.

Upon the down-stream side, and about 100 feet from the shore, was a deep crevice in the face of the cliff, at least three feet wide and ten in perpendicular length, and from this large aperture poured an incessant stream of bees. Their loud and busy hum aroused Fred's spirits, and he began to have a genuine interest in the situation. He knew from the volume of bees that there must be many colonies within that aperture. There was no way of getting a view of the interior, save from the bottom, and with the aid of a ladder; but here the water seemed to be of such depth as to prevent the erection of one.

Walking around the whole circumference of the bluff he found other places where colonies of bees were lodged in smaller crevices. From the surface of the bluff there was a fine view both up and down the river. Mr. Buell's landing, three miles below, could be seen, and many other points of interest.

The exploring done, Fred sat himself down upon the river-bank below the butte and in sight of the bees, and here listened to the music made by the thousands of busy workers as they darted through the air.

For some minutes Fred studied the bees, and speculated upon the formation of that peculiar house-apiary; but his eyes at last turned from the bees and were resting upon Buell's landing. He forgot the bees, and his speculations were upon the fair being he had met under such peculiar circumstances, and who was in that sad demented condition. "What a beautiful name!" said he; and he said aloud, "Alfaretta."

Again the hum of the bees made music in his ears; and as he glanced upward to the cliff his eyes kindled; he sprang to his feet; an idea possessed him. Was it born in the repeating of that name Alfaretta? Be that as it may, he had an inspiration, and exclaimed aloud, "By George! I will do it."

If you would like to have any of your friends see a specimen copy of Gleanings, make known the request on a postal, with the address or addresses, and we will, with pleasure, send them.

GRADING HONEY.

By Dr. C. C. Miller.

It seems to me Editor Hutchinson is right in thinking that it is not wise to put in place of the system of grading adopted at Washington another system proposed by a private individual, especially as this latter system had been before the convention at Washington, and rejected by them. As he says, if there's any thing wrong in the Washington grading, let it be pointed out and corrected at the next North American.

But I don't feel so sure that he's right in thinking the system all right because no fault has been found by dealers or shippers. I'm afraid the silence with regard to it has been rather the silence of indifference or despair. It's a difficult thing, as the discussions showed, to get all to agree upon any one system; and perhaps the feeling was, "Well, I suppose there isn't much chance to get any thing satisfactory, so it's hardly worth while to say any thing about it." That it has been used three years without fault in one of the journals is some degree of testimony as to its being satisfactory. That only one of all the journals used it, and that no word of fault was found because it was not used, seems to be pretty strong proof that it wasn't thought worth using.

I confess I don't feel very sanguine that any thing entirely satisfactory can be reached; but as attention seems just now turned in that direction, it may not be unwise to follow Bro. Hutchinson's hint and point out what isn't just the thing in the Washington grading.

As already noticed by you, Mr. Editor, the Washington grading gives no No. 2. There are just two grades of honey—a first and a second grade. If nothing else is to be put on the market, then two grades are enough; but is it exactly the honest thing to name them "Fancy" and "No. 1"? When you buy a thing for a No. 1 article, and afterward find out that you have the lowest grade to be found, don't you have just a little feeling that you have been swindled? And don't the dealers to some extent consider the grades as No. 1 and No. 2? Right here it may be well to examine quotations as given in *Review* for March, perhaps also looking at those given in *GLEANINGS* for April 1, as the quotations in each are about the same date.

In *Review*, C. C. Clemons & Co. quote no fancy, only No. 1. Does that mean that the only kind of honey sold in that market in comb is such as described in No. 1. "with combs uneven or crooked, detached at the bottom, or with but few cells unsealed"? But in *GLEANINGS* they quote No. 1 at same prices and No. 2 at lower price. Now, isn't their No. 1 in each case the "fancy" described at the head of *Review's* quotations; and doesn't it look a bit

as if they were saying, "We quote No. 1 as our best honey in each case; but as there is no No. 2 in *Review* we don't give it there, but we do give it in *GLEANINGS*." And isn't their action, if it means any thing, really objecting to the grading in *Review*? Batterson seems to use the grading straight, and perhaps the others do; but in Minneapolis there's nothing but fancy. Burnett says, "Fancy white, 15; and No. 1 white, 12 to 13." In *GLEANINGS* he says, "14c for clover and 12 to 13 for basswood," which rather goes to show he doesn't pay any attention in actual transactions to the North American grading. I doubt whether many of the dealers do.

On the whole it may be a good thing if all the journals unite to push the Washington grading to the front. It's better than none; and if the dealers can be got to use it, then it's possible enough attention may be given it to remedy any deficiencies.

But ought nothing to be said about pollen in sections? By the Washington grading, every cell may contain pollen without throwing it out of No. 1 or even fancy. Where would you put a section, white as chalk on one side, but a little darkened on the other? How many cells are unsealed when there are "but few cells unsealed"? Guess I'd better not ask too many questions.

Marengo, Ill.

[I believe with the doctor, that there ought to be a No. 2 grading. Necessarily *some* honey will get into the markets that is neither "Fancy" nor "No. 1," and should therefore be classed just what it is, or No. 2. Moreover, the commission men should state what price they are allowing on such honey, so that the producer can decide whether he can send what he has of that sort to the city. No. 2 should, in my estimation, include, in comb honey, sections that are travel-stained, or nor entirely filled out or capped over, or light in weight, but the honey itself of good quality; that is, I would make No. 2 describe the *condition* not the quality of the honey itself.

If the other publishers agree that there should be a No. 2 added to the Washington grading, as now partially adopted by the bee-journals, I will have it incorporated in our Honey Column. At all events, there should be uniformity of action on the part of all the journals; for a system of grading, if used at all, should be universal, or as nearly so as may be.

As to the wording, I suggest that the doctor give us a form for No. 2, being careful to make it brief and to the point. As to the classes, I would add one; namely, "mixed," in addition to the terms "white," "amber," and "dark."

These two changes, a "No. 2," and the term "mixed," would make the current grading nearly perfect. By referring to the Honey Column the reader will see how the grading now stands.

It should be said that this article of the doctor's was written before the grading adopted by the *Review* was used in *GLEANINGS*. Since then all our commission men have made their quotations conform in every particular to the new grading; and with a single exception they did and are doing it without a protest.—ED.]



BEEES KILLING OFF DRONES.

Question.—I have ten colonies of bees which wintered well in the cellar. They are strong in bees and brood, and are working well on white clover, but they are killing off their drones. What could the drones have done that they are thus killed? They are making a business of killing them, as much as if it were September. What is the cause, and what will be the result? Two colonies swarmed a short time ago.

Answer.—The questioner seems to think that his drones must have done something very wrong to cause the bees to kill them; but I hasten to assure him that his drones were not "sinners" above other drones, for all drones are treated in the same way under like circumstances. The failure of flowers, or the flowers failing to secrete nectar, on account of unfavorable weather, often causes the bees to kill their drones as early as May or June, as well as later on in August and September; and if the scarcity of nectar is great enough, drones just hatching are dragged out at once, before they get even a sip of honey; and if the colony is on the verge of starvation, drone brood, in its milky state, is torn from the cells and sucked dry to prolong the existence of the colony.

The questioner did not tell us any thing about what kind of weather he had been having in his locality; but I suspect it was very much the same as we have been having of late; namely, cool, cloudy, and windy, with more or less rain. During such weather as this the bees rush out every time the sun "breaks the clouds," and appear to be working well, while they are not getting a living for themselves and the brood, to say nothing about storing sufficient to afford the presence of these "gentlemen of leisure." Such a state of affairs as this during white-clover bloom is not an uncommon occurrence, and I believe a failure of nectar in the clover-blossoms, in our questioner's locality, is the cause for the killing of the drones. The fact that only two of the colonies have swarmed, and no swarming is being done at the time of writing, shows that there is no secretion of nectar to amount to any thing, else his colonies would keep on swarming. Only two swarms, with the bees killing off the drones, is proof to my mind that clover is yielding no honey, even though the bees may appear to be working well.

As to what the result will be, I see no reason to fear any thing bad. Nature makes no mistakes, and bees never kill off drones where they are needed. The colonies which have not swarmed have given up all idea of swarming

for the present, without doubt, so they have no need of drones; and I will venture the assertion, that, if he look into the two colonies which have swarmed, he will either find plenty of drones or a young laying queen: for a colony having queen-cells or a virgin queen will preserve their drones, even till the whole colony perish with hunger. If the failure of nectar continues, then the drones in these two colonies will be killed as soon as the young queens get to laying; but our questioner can rest assured that, until said queens become fertile, the drones in those hives will not be driven out as useless consumers.

SINGING QUEENS; WHY QUEENS PIPE.

Question.—I have an Italian queen that sings like a hen. What do you think is the cause of it? She sings while moving among the bees as well as when still, and so loudly that she can be heard five feet away when the hive is closed. The day before I heard this strange noise I cut out all of the queen-cells, but could not find the queen. The next day I resumed the search for her, and very soon, upon opening the hive, I found her singing as happily as a lark. It was not a piping noise, but a regular singing like a laying hen; and, besides, it was an old queen, and it is only young or virgin queens which pipe.

Answer.—Notwithstanding our correspondent says, "It was not a piping noise" which he heard, I am inclined to believe that it was just that and nothing else. It is a mistaken idea that many adhere to, that virgin queens are the only queens which pipe; for I have heard queens two and three years old pipe many times, although the noise made by them is not quite so sharp or cut up so much as that of the virgin queen, where there are rival queens in the cells. There seems to be a more intense hatred toward rivals on the part of a virgin queen than with laying queens; but when thwarted in her purpose, a laying queen will resent it as well as a newly hatched virgin. Although I have never heard any queen-breeder say so, yet I think I am justified in saying that there are few of them who have not heard laying queens pipe, or call to each other, where a number of cages containing queens placed near together were left near each other for a short time; and I doubt not but that very many who are not queen-breeders, who have ordered a plurality of caged queens sent them, have heard this piping or singing noise produced by the queens while in the confinement of the cages. I have heard it hundreds of times with queens when preparing them for shipment, and many times from the cages of those which I have received. Any thing which enrages queens and causes them to cease laying will cause them to go to piping; and the cutting of the queen-cells from the hive, as did our correspondent, at a time when the queen

had a great desire to swarm, will cause this result. Years ago, when I cut off queen-cells to restrict the issuing of first or prime swarms, I often had instances of that kind, and in every case I found that such colonies would swarm without the construction to completion of queen-cells. Another thing, I have found that any queen that is enraged enough to pipe will not lay any eggs while so piping, or during the time. Again, I have had queens which I was trying to introduce insist on piping, and the bees would always cluster such queens, or the cage containing them, as long as they continue to pipe and make such angry demonstrations.



In the May Review we are presented with a "Foreign Leaflet on Honey," from which I call: "I know parents who, in times of epidemics, give to their children, as an antiseptic, honey in abundance, and with complete success, these children having invariably escaped the illness."

"The Creator seems to have united every property in this remedy. Honey is not only sweet and wholesome, but also a food, a blood-producer of the highest order."

"Whoever takes regularly this bee honey will not only be much better nourished, but will also be spared, under ordinary conditions, a heavy medicine-bill, and will in any case increase his individual capacity."

Putting these quotations side by side with Health Notes in GLEANINGS, don't you see something paradoxical about the two lots of writings? If honey is such a king cure-all, how come so many sick ones in the ranks of its producers? How "kweer and kontrarie" mankind can be, anyway! We shall surely have to enter heaven by different routes.—*Somnambulist in Progressive Bee keeper.*

The tornado which visited St. Louis last week is without a parallel in the history of our country. Hundreds of lives were lost, and millions of dollars' worth of property destroyed; homes laid waste and hearths made desolate, while sad-eyed mourners watch and wait in vain for those who never come. In a recent card, Mr. E. T. Flanagan, of Belleville, Ill., says that the report of the storm was not in the least exaggerated, and that the destruction of life and property is simply awful. He also informs us that the tornado destroyed \$500 worth of fruit for him, but his bees escaped, and he is thankful that the lives of himself and family were spared.—*Editorial in Progressive Bee-keeper.*

Carelessness is found among bee-keepers as well as elsewhere. We have just received a letter from "Alexander," with no State or even name or address of the writer given. Of course we can do nothing with it until we get another letter from the same writer, who will likely "kick" because we did not reply to his former letter, when we have no means of knowing who the man is, or in what State he lives. Be careful *always* to sign your name to a letter, and also give your address in full.—*Editorial in American Bee Journal.*

Don't make a mistake this year, and send your honey off to some unreliable city commission firm. Better take two or three cents a

pound less for your honey than to ship it any great distance to market, and run the risk of leakage, breakage, and paying high commissions. Supply the home demand first, by all means, and make some effort to enlarge it. Many families do not know how healthful honey is, and need only to be assured of the fact, when they will become regular users of it.—*Editorial in American Bee Journal.*



THE reports of the good times we *hope* are coming, or perhaps already here, are just beginning to come in. Here is a sample:

We are in the midst of the heaviest honey-flow I ever saw—raspberry and other wild flowers.

Morrill, Minn., June 8.

A. T. McKIBBEN.

Our bees are just starting on the basswoods, and by the myriads of buds now opening we anticipate a good flow of honey.

THERE! I nearly caught Dr. Miller in a case of unconscious bias. Almost before he thought, he concludes, in Straws, this issue, that Mr. Taylor's experiments furnish "strong testimony in favor of cellar wintering." As I understand it, they were made for the purpose of determining just how much effect the protection afforded by a cellar had over colonies in single-walled hives, not how much difference there is between indoor and outdoor colonies, both according to the latest and most approved methods.

THE May number of the *Southland Queen* is a pleasure and a surprise. It is fully illustrated, contains extra pages, and is filled full of bright spicy things. This is what she (the *Queen*) has to say for herself:

She starts out on her second year printed on her own press, with her own type, in her own house, on her own soil, and run by her own hands. Now that the *Queen* is a fixture, and a settled fact, send in your subscriptions and see what a bee-paper we will send you.

Success to the *Queen!* and may she see many another birthday as auspicious as the first.

A NATIONAL BEE-KEEPERS' UNION AS A DE-LIBERATIVE BODY.

A PRIVATE letter from a prominent bee-keeper, commenting on the amalgamation matter, contains a paragraph which I can not forbear giving right here:

All this talk about "marrying," and "a poor society wanting to get the money of the other," is "all bosh;" for those who are the very backbone of each are the very ones who are in favor of a union or a new organization, the outgrowth of the others.

Italics are mine. In another place the same writer says:

It makes no difference to me, and I guess not to any one else, what we organize, so that it is what bee-keepers want.

Italics mine again. The bee-keepers of this country want, if they want any thing, a *national* association; and the easiest way, in my estimation, is to make the Union a deliberative body, having annual meetings. Let the old North American stand as it is.

BEE-PARALYSIS.

THE question is asked in the *Southland Queen* as to when and how the name "bee-paralysis" originated for a certain kind of disease that afflicts bees, causing them to become swollen, black, and shiny, and to exhibit a palsied or trembling motion. When our A B C of Bee Culture was first written its author described this disease as above, and then said he had no name for it. For a time it was called the "nameless bee-disease." This, certainly, was a misnomer, and a discredit to those of us who help to make our special nomenclature.

I called Prof. Cook's attention to the matter, and asked him to give us a name from his standpoint as an entomologist that would be appropriate and at the same time indicative of the real symptoms and characteristics of the disease. He suggested "bee-paralysis." Liking the appellation I incorporated it in all our own bee-keeping literature so far as possible, instead of the old or "nameless" name that had been used formerly. The late editions of our A B C book, and late volumes of GLEANINGS, have all made use of the new name, and I see it is now adopted by the other bee-journals.

This same disease was called by Mr. Cheshire *Bacillus Gaytoni*, after Miss Gayton, who first called his attention to this peculiar disease; but at that time we were not aware that bee-paralysis and *Bacillus Gaytoni* were probably one and the same; but we now have good reason to believe that they are, from descriptions that have come to us from across the water, as they tally so closely with what we now know to be and call bee paralysis.

COMMISSION MEN WHO WILL NOT ANSWER LETTERS.

Two or three times producers have complained to us that commission house so and so would not answer letters. In one instance the bee-keeper, whom I will call Mr. A., some time last October sent along a consignment of honey—to — & Co. Some two months rolled by, and Mr. A. wrote us that he had not heard any thing about the honey. We replied that the firm was perfectly good, well quoted, and had always dealt satisfactorily with us, and that we had no doubt they would render in due time a satisfactory account of sales. Time went on, and Mr. A. wrote us again, saying that he could get nothing out of the firm—that they would not even answer his letters. We wrote this

time, asking them to kindly look into the matter and write to Mr. A. Two more weeks went on, and still no response, either to Mr. A. or ourselves. Again we wrote, as kindly as we knew how, calling their attention to this whole transaction, and mentioning the fact that we had previously written, and asked them to look up Mr. A.'s case at once, or we should be constrained to withdraw their quotations from our Honey Column. This time we "raised the wind." We received a prompt but curt letter in reply, pointing to their many years of successful business career, and that they had all this time been able to conduct their business "without outside interference," and that they would thank us to mind our own business, and "forbear threatening." They closed up by stating that they had sent Mr. A. a full account of sales, with a check covering the same.

In our reply we simply stated that we furnished them, and all other commission firms, space in our Honey Column free of charge, and that the mere fact that we accepted their quotations was a guarantee on our part to our readers that we considered their firm, along with the rest, responsible and A No. 1; we further stated that, as we accepted their advertisement, and felt in a measure responsible, we had necessarily to come in as a third party to the extent that, if they did not attend to Mr. A.'s case, we should simply have to drop their quotations. This last is evidently what they call a "threat."

We hope our readers will keep us fully informed as to the firms that will not answer letters in regard to the honey sent them. The commission houses who are quoting honey for us are entirely responsible and, so far as we know, honorable; but if any of them do not like our "interference," all they have to do is to withhold their quotations from us.

As publishers of a bee-journal, we feel that it is our duty to champion the rights of the *producer*, and in all cases to stand unflinchingly for the right, no matter whether it favors bee-keepers or commission men. Where we have been appealed to as referee, we have decided in a few cases in favor of the commission man instead of the bee-keeper.

SELLING HONEY ON COMMISSION: QUOTING THE MARKET TOO HIGH, ETC.

We have run across one or two instances where commission houses have been quoting two or three cents a pound higher in their market quotations than they actually render to the bee-keeper in their account of sales. Of course, the latter complain, and justly so.

We realize the fact that it is not always possible for a commission merchant to sell honey for what he *thinks* he can; but when that commission merchant makes his quotations in the bee-journals about two cents higher than the

price he pays to the bee-keeper, he is not doing as he would be done by, to say the least. In the first place, he virtually robs the bee-keeper of two cents on every pound of honey sold. In the second place he robs the honest commission man, who would have got the consignment, of the sale of that honey.

We want our bee-keeping friends to keep us fully posted on all cases of this kind; and if your commission man does not allow you in his account of sales the figures that he has quoted at the time the sale is made, then ask the reason why; and if he does not give a satisfactory answer, report him to us at once.

We make no charge for advertising-space for commission firms in our Honey Column. The space is valuable, and they are willing to pay for it; but we would rather not take any pay, so that we can drop them out of the Honey Column at any time when they fail to toe the mark.

I have been thinking it would not be a bad idea to ask our commission men to render account of sales according to the system of grading at the head of our Honey Column. For instance, Messrs. A. B. C. & Co., commission men, will make account of sales something like this:

18 crates of comb honey, fancy, 15 cts.
50 cases ditto, No. 1, 12 cts.
5 cases comb honey, No. 1 amber, 9 cts.

A. B. C. & Co.

The bee-keeper knows exactly how the honey was classed, and the prices received. But, unfortunately, the account of sales at the present time is rendered something in this way:

18 cases of comb honey, 15 cts.
20 cases of comb honey, 12 cts.
10 cases, amber, at 9 cts.

X. Y. Z & Co.

It will be seen from the last named that the producer does not know exactly how his honey was classed—that is, *why* the 20 cases sold for 3 cts. less than the 18 cases; but if the account is rendered according to the one by A. B. C. & Co. he knows whether or not he is getting market quotations. If our commission men should see this I hope they will take the pains to make out their account of sales somewhat on this plan—the one over the name of A. B. C. & Co.

THE SUGAR-HONEY QUESTION AND THE ATTITUDE OF THE REVIEW.

THE following is a letter received from Bro. Holtermann, of the *Canadian Bee Journal*, which will explain itself:

THE REVIEW NOT SILENT.

I notice your little item in GLEANINGS, page 432, June 1, a footnote to an extract from the *Review*, in which the editor of the latter periodical claims that the *Review* has kept silent upon the "sugar-honey" question, and feels inclined to take me to task for condemning him for what are his private opinions. If the *Review* has kept quiet upon this question of

late, what does the following mean in the March, 1896, issue of the *Review*, page 88? "The last number [of the *Canadian Bee Journal*] makes a cheerful shout over the passage of the legislation they have been crying for so long—the anti-sugar-honey bill. It has been amended somewhat, it seems; and lack of time or modesty, or some other reason, keeps them from giving us the text, so we can not see for ourselves just what sort of a looking "critter" it is. We venture to guess that the Solons of the government have given them enlarged penalties against real adulterators and evil-doers, and shorn their power to persecute innocent neighbors."

The above is penned by Hasty, in his "Review;" and knowing the views of Hutchinson and Hasty, and reading the above, if the writing has any meaning at all, does it not mean, viewed from their standpoint, that the members of Parliament would be wise enough to know that such feeding of sugar, and selling it as honey, is not adulterating, and that such men are innocent? Silence upon this question in the *Review* would certainly be "golden;" but I am afraid that, to claim such as the above as *silence*, savors of brass.

R. F. HOLTERMANN.

Brantford, Can.

There may be a difference of opinion as to whether the advocacy of sugar honey was begun again in the March *Review* from which the quotation was made. However, I have been sorry to see what seems to be a spirit of unfriendliness on the part of Bro. Holtermann toward Bro. Hutchinson. The editor of the *Canadian Bee Journal* has taken issue strongly with the editor of the *Review* on matters entirely foreign to sugar honey. It is not so much *what* Bro. Holtermann said as the way he said it; and it is the *spirit* of his utterances toward Mr. Hutchinson on several questions, especially his rejoinder above, that make me feel a little sad, especially as both are my friends.

Now, understand I am not defending in the least the production or sale of sugar honey; nor am I excusing those who took a part in its early advocacy. As they have of late said little or nothing, it has seemed unwise to belabor them now. There is such a thing as carrying matters of this kind too far, defeating their very object—thus making the opposition more determined to carry its point.

I believe, in the present instance, both parties are perfectly honest in their convictions; and while the one side was too hasty (I do not mean this as a pun) in launching upon the bee-keeping world an untried experiment, and one of doubtful expediency, the other side has erred in being a little too severe in condemning—and persistently condemning—after there was no real occasion for it.

Now, if both sides will drop the matter where it is, with the feeling that the other side was honest in its convictions, the harmony of feeling that formerly existed will be restored.

Although I have had no correspondence with Mr. Hutchinson over the matter, I feel safe in saying that the *Review* will go half way, and more if need be.



Thou shalt not take the name of the Lord thy God in vain—EXODUS 20:7.

Within ten miles of our place are the great celery and onion gardens of Wean, Horr, Warner & Co. They occupy what was known for years as the "Harrisville Swamp." This swamp one way is about two miles in length. For the past few years it has been reclaimed, and is now one great garden. On the 2d day of June I got away from the office about two o'clock, for a half-holiday. In about an hour I was on the celery-ground. These celery-fields, although but a few miles away from the Creston farm described in this issue, are worked on quite a different plan. The extent of their grounds is so great that the cost would be tremendous for an irrigating-plant, with engine, tank, and pipes, such as the Jordan Brothers use. They have worked for years on the plan of open ditches. These ditches drain the swamp, and during a dry time they carry the water to be used on the beds. I did not notice the width of the beds, or, if you choose, the distance from one irrigating-ditch to another, but I should think the width was about four rods. At this season of the year water is brought in from Killbuck Creek so as to fill the ditches up to within 18 inches or a foot of the surface of the muck. By means of lifting-gates the water can be raised to any height desired.

When I first came on to the ground I noticed with pleasure the groups of men, women, and children scattered here and there. Some of these groups were perhaps a mile away—away off over the level celery-fields—about as level, in fact, as the surface of a lake. While I was deciding which gang to make for first, I noticed a solitary man off in a field by himself, working with a hoe. He was almost a quarter of a mile from anybody else. It seemed a little strange to me that one man should be thus working alone when the whole system of the great farm seemed to be to work in gangs, with an appropriate foreman in charge of each gang. I supposed, however, there was some good reason for so doing, although it stirred somewhat my Yankee curiosity. As I looked at him again I thought, too, he seemed to have a sort of half-hearted manner by the way he used his hoe. He didn't act like the people who worked together in companies. I was going to ask him where I should most likely find the general foreman, with whom I was well acquainted, but he was almost too far away. Finally I caught sight of the man I wanted, driving a gray horse. The horse whisked around at such a rate, however, here and there, that I despaired somewhat of catching him, especially as I had to follow, at least for the greater part, the clay roadways. A year ago it was pretty hard work on a hot day to run a wheel over this soft peat; but I was rejoiced to find on this trip that good hard clay roads had been made—miles of them—to facilitate the moving of their heavy crops. Clay enough is put on top of the peat so that the heaviest-loaded wagon rarely breaks through. In only a few places did I see holes where the wagon-wheels had gone down and stirred up the black muck. Let me say, before I forget it, that this plantation is so extensive that the government bulletin on onion culture, mentioned elsewhere, has several times referred to the great Ohio onion-farm. A year ago some single acres produced more than 1000 bushels of the Yellow Danvers onion.

Before I found my man I got into a group of perhaps 20 or 25 celery-transplanters. Each man had a row on one of the beds I have described. The ground is first thoroughly worked up by horses; then it is rolled smooth, hard, and level. Next a marker goes over, making a perfectly straight furrow where the plants are to be set. Now the men all commence and tramp a row by standing with their feet right across the furrow, and move sidewise from one foot to the other. This packs the soil where the plants are to stand, and raises a little ridge of soil where the toe and heel come. When the ground is all tramped, then each man takes a large stout galvanized iron pail, with a lip to it, and dips water out of the ditches, and pours it into the hard bottom of the little channel where he had just been tramping.* As soon as the water soaks away, the celery-plants are put in. Each man carries his plants in an oblong wooden box made of inch lumber.

Now, I did not say any thing out loud, but I began at once a mental criticism. First, it seemed to me that this tramping could be much more cheaply done by horses and a machine. Then I thought the tin-pail program was a good deal more hard work than the iron pipes and rubber hose used by the Jordan Brothers. Then, again, how much lighter some cheap tin pans or tin basins would be than the great heavy wooden boxes! But just then I caught sight of the gray horse, and put after him with my wheel. Before I caught up with said horse, however, I saw a man coming in a buggy. As the road was a little narrow I prepared to turn out on the muck when I noticed the occupant was Mr. Wean himself—the member of the firm, and the one who has the great Lodi gardens personally in his charge. He told me to run my wheel out among a patch of Early Ohio potatoes, where it would not be run on to by teams, and leave it.

Now you will have to wait, dear reader, until I tell you a little about these Early Ohio potatoes. There was a beautiful stand about knee-high, and Mr. Wean told me they sent clear to Chicago to get a special strain of Early Ohios that were *true to name*. He said they could not afford to fuss with any thing but the very best; for the Early Ohios scattered here and there among our farmers are any thing but pure and of the best strain. Last season they secured almost 400 bushels to the acre of Early Ohio potatoes; and they were all sold at 40 cts. before digging. Mr. Wean told me this while we were sitting in the buggy; then he told me almost enough about their work to make a book, but I can not give you all of it now. When I suggested that machinery might be made that would do the "stomping" he said they had had some expensive machines made, but they did not seem to answer the purpose. Besides, the machine would not always be right where it was wanted. A man has his feet right along with him—that is, generally speaking—and there is no fuss or tinkering for him to get them ready for use. A gang of men do not have to stand and wait for a man to get his feet in working order. Now I tell you, friends, this is a big item. Why, I have sometimes threatened to take all my wheel-hoes and new-fangled cultivators, and put them out of sight somewhere because a man would fuss more in getting one adjusted and fixed to suit him—that is, he would take more time with the thing than to take a common hoe and clean out the crop, especially if it was only a small patch

* On this very soft porous muck, unless the ground were firmed by tramping, the trench would not hold water long enough to give the plants a start. Firming the soil makes it hold moisture.

of something. Every man, when he goes to the fields, has a hoe, when he does not have a man-weight cultivator or any other sort, with proper knives set at the proper angle to do the job. I was talking with Mr. Wean about this same thing, and asked him if he had tried the Breed weeder on their onion-plants; and he made a remark that I have been thinking of for some time.

"Mr. Root, the best onion-weeder that has ever been invented is a boy."^{*}

When I spoke about carrying water for the ditches, with those big metal pails, he told me that the stout pails were a very plain, simple piece of machinery. I noticed, by the way, they were made so they could not very well get out of order. The men carried them along with them when they went to the fields, and each man could go ahead with his work with his pail, his feet, and his box of celery-plants. Before I said a word about my cheap tin pans he volunteered:

"Those boxes appear heavy to you, no doubt; but when they are soaked with water they keep the plants in beautiful condition. With the cheap light tin pans they would all be dried out and injured more or less."

They work—at least, at this season of the year, with celery-plants taken right from the seed-beds, the beds being in the open air; and with their system, especially with the enormous extent of their grounds, their plan seems to be very complete. By the way, friends, do you notice how differently *bee-keepers* work in attaining the same result? The final result is, of course, nice honey in one-pound sections; but in order to get them, bee-keepers have a system, with hives, and methods of working, which are as far apart as can well be imagined. Each man seems to do best according to the plan he has been working on. Of course, bee-keepers profit by visiting each other and comparing plans; but very often it is better for each to go home and work along pretty much in the same groove he has been working in, and it is pretty much the same with celery-growers.

When I first came on to the grounds I was astonished to see acre after acre of onions as large as my thumb, and fully a foot in height—and this, too, in the fore part of June. Mr. Wean told me there were 180 acres of these onions. The stand was almost perfect, and yet no thinning had been done. The rows were almost as straight as they could be drawn with a line, even though they extended away off almost to the horizon, as it would seem. As field after field was passed, all looking exactly alike. I burst forth:

"Why, Mr. Wean, one would almost think, from the looks of things, that you had got your onion-seed planted all in one day."

I think he said it took him only a little more than a week, and the drill was set so accurately no thinning was needed at all. One great secret of their success is, they raise their own onion-seed, and it is watched and cared for

^{*} Please do not understand from my remarks that no wheel weeders and cultivators are used at all on this great onion-farm. At different points I saw men (and women too) running wheel cultivators through the rows; and I was a good deal surprised, and perhaps pleased as well, to notice that they used none of the machines so much advertised in the catalogs and papers. As they use a great number of them, they are cheap home-made affairs, many of the wheels of the machines being only a round piece of board, and the knife is a thin blade of steel, something the shape of a letter U, but flat on the bottom. By drawing the tool back and forth, this steel knife cuts up the weeds and melloes the soil, deep or shallow as the operator wishes, by raising or lowering the handle.

from the time the very best onions are selected until the time the seed is ready to sow. When I began to think there were no exceptions to this wonderful thrift and perfect stand he pointed out to me a field where their own seed gave out and they were compelled to *buy* some. Oh dear me! what a painful contrast! Now, I have the promise, for another season, of a limited quantity of this same onion-seed, and I am going to offer it for sale. But, mind you, it can not be sold at such prices as we have been paying for a year or two past. And here we found the best weeder in the world, for onions. It was a group of boys, say from ten to fifteen. I guess there were about forty of them in the gang. As I was introduced to the foreman I remarked:

"Mr. Myers, you must be a good man. I judge so from the looks and behavior of these boys."

Mr. Wean then added:

"Mr. Root, you will be pleased to know there is not a bit of swearing or bad talk in this whole crowd."

The boys nearest us heard the remark, and looked up; and you could see by the smiles on their faces that they felt proud of the fact which Mr. Wean had just told me. He says he frequently stops with the boys a little while and gives them a short talk. One day he asked them if any one in the lot knew of a man who was mean and low-lived. I can imagine how the boys would exchange glances at such a question. Probably every boy in the lot could recall to mind such a man.

"Well, boys, that man was a boy once himself. Without question he was a *mean* boy. Probably he was a swearing boy—was dishonest and tricky, and quarreled. Now, you just remember this: It is that sort of boy that makes that sort of man when he grows up."

Mr. Wean will excuse me, I am sure, for having paraphrased his remarks a little after my own fashion. But the boys did not forget his short sermon. As we passed along I asked the question:

"Do you mean, Mr. Wean, that there are no *men* in your various gangs who are swearing men?"

"As a rule there is no swearing on our grounds, although we have between 200 and 300 men, women, and children employed. Of course, such men get in; but if they can not mend their ways we have to get them out. I first deal with them myself. I try them again and again; but when they will not give up such habits we give them up. By the way, did you notice one man all by himself, off in the middle of the field, as you came in on to the grounds?"

I told him I did, and wondered what it was for.

"Well, this man is one of the worst. He has promised me to break off from the habit, but he does not do it. The last time I talked with him I sent him back to the gang; but he behaved so ill that a protest came from his fellow-workman, and they asked to be excused from having him in the crowd.* But I had faith in him, and have faith in him yet, and so I set him at work off there where you saw him. He is not worth as much under the circumstances; but, Mr. Root, *men* are of more value than onions or celery."

Oh, dear me! I suppose friend Wean did not

* Look here, friends, how many establishments are there with such a spiritual atmosphere pervading that the men unite mutually in petition to the employer, that a profane man must stop his profanity or be banished from the company? I do not suppose this was any sort of "strike" but such striking as that—striking for righteousness—speaks of better things in the future.

guess that he was giving *me* a rebuke just then. Of course, he knew my whole heart and soul were with him in the stand he had taken; but he did not know that my own boys—members of my own Sunday-school class—who were at home picking strawberries at that very time, did not get, perhaps, as many encouraging words as these boys were getting away off here in the swamp. When I asked where the boys lived he replied that most of them came from the country round about; and as I stayed until quitting-time I was pleased to see a light one-horse vehicle, with seats all around the outside, arranged so that one horse could easily trot home with perhaps a dozen of those small boys. They were neatly dressed, faces and hands clean, notwithstanding their occupation, and they did excellent work, and were happy about it. I talked with them, and they told me so. Mr. Wean remarked, as he pushed his fingers around among the onions:

"See here; these boys are not content with simply getting the weeds out. They do a nice job of cultivating and loosening the soil around the plants at the same time. Every boy understands the importance of it, and the girls too, as well as you and I do; and they take pride in seeing the beautiful growth of the beds that they have gone over."

Now, friends, is there any one among you—is there a man, woman, or child, who looks on these pages, who does not know that those boys did better and more valuable work than they would have done if they had been permitted to curse and swear? And it is the same with a gang of men. The men who take God's name in vain, especially those who do it in an idle way, with almost every word they speak, are not, as a rule, good workmen. It is against reason that they should be. The man who takes God's name in vain labors with a blighting curse hanging over him. You can not break God's laws with impunity. "Whatever a man soweth, that shall he also reap." And yet why is it that men persist in doing so? Why do they set this bad example before the children? Why do parents permit their children to indulge in this foolish sin that kills both soul and body? When it comes to the care of domestic animals, the man who curses his horse or cow prevents the poor dumb brute from doing its best. The curse really seems to fall on the poor animal. Oh may God help us to hold back this vile filthy current—this blighting stream of evil that seems so continually to break forth where men and boys are congregated together. It goes right along with sabbath desecration. The two are twin evils. Where you find the one, the other follows along. May God help us as a nation and as a people to recognize their blasting influence, and not to cease our warfare against them.

There, I have finished my story, and that, too, without catching up with the "gray horse." Well, Mr. Wean and I found him; and I had not only a pleasant chat with my old neighbor, but with his estimable wife and daughters too; and I assured them that I believed it was not only Mr. Wean but God in his great providence that called them from their home in town into the wide waste of onion and celery fields.



With the potato business and other busy cares, I have not been off on my wheel very much as yet this season; but as I have recently come into possession of a 19½-lb. Remington, I have been waiting anxiously for an opportunity to give it a test. Some of you may say, "Why, Bro. Root, are you setting just the right sort of example before our Young Americans, buying a new wheel every spring?" Well, I was quite well suited with my Rambler; but Ernest had been for some time protesting that it was too light a wheel for such work as I have generally given wheels. Besides, our boy Huber, who is now just thirteen, had been urging for some time that I should get a new one and let him have the Rambler. He weighs just an even hundred pounds. Another thing, Ernest wished to have me test all the new improvements, so that I might be fully up with the times in advising in regard to wheels, so that I might be able to state, from practical experience, whether the wheels of '96 are really any better than their predecessors. Well, this new Remington has at least two very important improvements. The tubing is made large, to give greater strength with the same amount of material. The ball bearings are also made with much larger balls. This, I am satisfied, is an improvement. Another thing, the new machine will climb out of a rut better than any other I have ever had before. Wheelmen as a rule have learned by experience to be careful about following a wagon-track if it sinks much below the general surface of the road. With this wheel I can take risks along this line that I never dared to with any other. This is of special advantage in riding after dark.

When the new wheel arrived, Huber was a good deal more excited than I was, because he knew that, from that time forward, the Rambler was his own property. To show his enthusiasm as well as skill in wheeling he ran and jumped astride the new wheel before he had even had hold of it long enough to know how to handle it. Now, friends, this is a very simple thing. I suppose almost any boy of a dozen years will do it. But just consider a minute. Suppose that, fifty years ago, such a machine had been shown to the people, and some youngster had sprung on to it in that way. The wheel itself can not stand alone at all; but a boy weighing a hundred pounds jumps into the saddle as he would jump on to a colt. According to all supposed laws of gravitation and mechanics, both the boy and the wheel would go rolling and tumbling. Nothing of the kind. The new wheel received the shock with scarcely a shake or tremor; and he sat on it as securely as if he were on a hitching-post. Of course, the moment his foot struck the pedal the wheel was under motion. It went crooked a little for a few yards; but very soon the wheel and the rider were in accord. If the readers of GLEANINGS could see Huber go through with some of his antics on his Rambler, riding first entirely on the crank on one side, with one foot out in the air, then doing the same on the other, then crawling all over the machine, even getting down under the top-bar, the wheel meanwhile going as steadily as if it were some old family horse—if our readers, I say, could see him go through these tricks, I would give—oh! a great big lot of—potatoes.

Well, I started for the celery-farm of Jordan Brothers & Co., at Creston. I had not visited

WE are getting a very large number of flattering testimonials for the new Weed foundation. Here is a sample of one of them:

☐The 100 lbs. of new-process foundation, we received about a week ago. It is superfine. We have thoroughly tested it, and find it far superior to any thing else we have ever used in the way of foundation.

THE JENNIE ATCHLEY CO.

Beville, Tex., May 29.

them before, I am ashamed to say, this spring. I knew something what to expect, however, for the season has been exceedingly favorable. I reached there just as the sun stood at the right angle to make the beautiful rows of plants show forth like threads of green and gold, as they extend away off in the distance over more than forty acres of the rich black loam. I have tried to describe the appearance of a celery-farm before; but words do not seem to do it justice. Friend Jordan told me there had been several attempts made to photograph the field; but the camera does seem to "catch-on" to the black earth and brilliant green. Another thing that makes this spot so enchanting is that here this branch of agriculture is carried on with such perfect system and mathematical precision. The plants are raised in the greenhouse, as I have before described; then trained women transplant them into boxes that are afterward set in the outdoor hot-beds and cold-frames. This spring they have discarded cloth, and every thing is covered with glass sashes. When the sun is too hot, the sashes are either whitewashed or covered with shutters. They have "caught on" to the same idea that I expressed in our last issue—close-fitting sashes keep the air and soil damp around the plants better than cloth or any thing else that permits too much air to pass through.

After the plants are sufficiently rooted then they can have air and sun; and they take pains that they are well hardened off in this way before they go to the fields. The ground is marked off with a machine that makes a furrow deep enough to hold a little stream of water. The same machine also fixes the distances the plants are to be placed apart. Each plant, when put out, is a mass of fibrous roots, holding sufficient soil so there is really a little sod of earth and roots attached to each plant. I have mentioned this before; but it will bear telling over again. The result is, that not one in a thousand dies—perhaps not one in ten thousand. In fact, there are no vacancies.

I found quite a gang of men and boys at work, the boys dropping the plants; and each man and boy will set ever so many thousand plants in a day; no matter how hot the sun shines, nor how dry the weather is, a man trained for the business keeps a stream of water constantly running in the furrow, ahead of each one of the planters. The Golden Self-blanching is at present rather taking the lead for early celery.

THE NEW CELERY CULTURE A SUCCESS.

I am pleased to see that Messrs. Jordan Bros. & Co. have succeeded in making this thing work beautifully; after the experiments of last season, perhaps half an acre is growing in this way. The rows of celery are 7 inches apart, and the plants are 6 inches apart in the row. But the great essential to success is not only plenty of water, but the very richest of compost that can be made. By the way, Jordan Bros. & Co. are purchasing stable manure now from the great cities by the carload. They get it wherever they can find it best and cheapest; and they are working now *entirely* with stable manure, using no chemical fertilizers whatever. And that is just what I expected, for celery-growing especially. Great compost heaps as large as a barn were located at different points near the railroad track. The manure and muck are worked over until they are thoroughly decomposed and composted; and then it is spread over their more than sixty acres; but for the new celery culture they work it in tremendous doses. It is almost, both in looks and smell, like an old barnyard. When I was there some of the plants were nearly a foot high; and I expressed some surprise because

the weeds had not been cut out so very thoroughly as out on the broad acres where the rows were four or five feet apart.

"Why, Mr. Jordan, don't you want to get this 'pussley' out of here? Surely you don't want the weeds in the way in your *new* celery culture."

"Mr. Root, how much harm can weeds do when the celery-tops get above them and shut out every bit of daylight?"

"Well, I declare! *there* is another new kink after all. This very rich soil, instead of encouraging the weeds, discourages them; for the celery, after it once gets a little ahead, is too much for even 'pussley.'"

Just then a bell rang, and the small boys began to scamper. I supposed it was supper-time, and thought the boys must be hungry; but Mr. Jordan said it was quitting-time, six o'clock. And then it just occurred to me that I had been looking around there, entirely oblivious of the lapse of time, and I was fourteen miles from home. Oh! by the way, there was a little group of boys off a little piece from the rest of the crowd. This group came along a little more leisurely behind the rest; and as they walked on ahead of me, I noticed a peculiar motion in their walk. There was a little bit of swing, such as you often seen girls of twelve or fourteen put on. They walked as if they were swinging their skirts; but there were no skirts at all. They were simply boys' blue overalls. One of them looked around, and then for the first time I noticed that the "boys" were all girls. Now, do not scold. You can not blame the wheels altogether for the bloomer costume. I do not think these girls were bloomers after all. A year ago I noticed they had girls—that is, small girls—weeding onions, working on their knees astride the rows. The boys got over the plants without musing them up or breaking them down; but the girls, even though they wore short skirts, evidently did much more damage to the plants. Well, this year they have given up the skirts entirely. I do not know that you can call their clothing bloomers, but it is adapted to their work. If their mothers are poor and needy, they will not need to say, as some others have said, "Why, how much my girls would help if they could work in the onion fields and earn money as the boys do!" Mind you, I am not entirely satisfied that this is just the thing to do; but I am only suggesting. If my girls were at work in this way, I should want some good Christian man near by to look after them; and I was glad to note that this crowd of workers were in charge of the senior member of the firm, and I happen to know he is a most excellent and exemplary Christian man.

I think I never climbed the hills—a long string of them that we meet about half way home—with the ease that I did on this trip. My new wheel just bounded up hill and down; and although I have enjoyed beautiful sunsets all my life, I think I never before enjoyed one as I did this time. It was the effects of that wheel-ride. Let me go back. When I first started out that afternoon I did not feel like riding. I went principally because I knew I needed it to start my circulation. After I had ridden two or three miles, had I consulted my feelings at that time I should have said there was not any fun in wheel-riding, after all, and I actually felt as if I should rather go back home. I reached home just as the moon was up, so it was my pleasure to enjoy a *sunset* and a *moonrise*. Oh how things had changed in just one *short* afternoon! Why, I didn't get business arranged so I could get away until almost three o'clock. I felt happy and full of enthusiasm

until after nine o'clock, and did not have time for my afternoon nap either. Just as I was dropping off into a delicious and peaceful sleep, one of my favorite texts came to mind, and I said aloud, "Surely goodness and mercy shall follow me all the days of my life;" and Mrs. Root, who had not gone to sleep either, responded, "Yes, dear husband, goodness and mercy will follow you if you always hold fast to your Christian faith and hope, and I think you will."



OUR STRAWBERRY REPORT FOR 1896; THE TIMBRELL STRAWBERRY.

Just as we had decided to drop the Timbrell from our list, it transpires that, in consequence of the present favorable season, it is just showing us what it can do. Our rows of Timbrell are not only giving us great quantities of berries, but they are the largest and the most beautifully shaped berry. I think, I ever saw in my life; and, on top of it all, where they are allowed to get fully ripe the greater part of them are nicely colored. By picking out some of the best, I think almost anybody would call it the ideal strawberry; and the flavor of the fully ripened Timbrell is second to none. When they are not fully ripe, or where the ground is not up to a high state of cultivation and richness, the mottled color is still an objection. Now, nobody objects to our Jessie strawberries when they have white tips, or are even white on one side; but the Timbrell has a strange way of looking when it is not colored all over. The white and red give it a mottled appearance, something like cheap calico—yes, and even faded calico at that; and I fear that the Timbrell is to be discarded just on account of this one objection; and yet when it first came out, nobody seemed to notice it very much—just *looks* and nothing else. But when even *one* berry of this sort happens to get into a box with the calico side uppermost, it hurts the appearance, not only of the whole box, but of the entire lot. Good-by, Timbrell.

Now, the Marshall is all right every way—has all the good points of the Timbrell, and none of the objections; but it does not bear *enough* berries—that is, I am afraid it will be an objection, just the same as with our old friend the Gandy. By the way, we begin to think it is a pretty hard matter to beat the Edgar Queen—that is, if you take it all around. The berries are wonderfully large, and there are lots of them, and it holds out well from beginning to end. The objections are, they are not all of a handsome shape. If you do not have perfect varieties near by for fertilization you will have a *terrible* lot of berries, as it is imperfect.

Michel's Early gave us the first berries to put on the market as usual, and they are tiptop every way—perhaps rather small, especially toward the close of the season, but there are not as many of them, by a long way, as there are of the Haverland, that ripens only three or four days later.

The Parker Earle is a splendid berry; but the plants must have plenty of room, the very richest ground, and water in abundance. With all these essentials it is a most magnificent berry in every respect; but if the soil is poor, or water is lacking, the plant seems to get contrary, and gives up. By the way, a great many strawber-

ries will do very much better if you give them plenty of room. Michel's Early, for instance, will make a big mat of plants in almost no time; but to get good large berries, and to get them very early, the plants must be thinned out and the runners kept off.

Take it all in all, for our locality, I believe our old friend the Jessie comes pretty near standing at the head. When we remember that it is a perfect variety, and furnishes pollen both early and late, to fertilize other varieties, it seems too bad that the Jessie, in many localities, is reported almost a failure. With us they are of large size, nice shape, and so sweet that they are nice eating when they are red a little on only one side. In fact, I do not know but I prefer them that way. This makes it a little more tart. The plant has nice foliage, is as free from blight as any, and it seems to me that every strawberry-grower should have at least one patch of Jessies to test. I asked our boys, Frank and Fred, what they thought about it. They said the Jessie and the Bubach together have given us the largest lot of fine berries, year after year, of any thing we have tried. The Bubach has the advantage of coloring all over, while the Jessie is very often white on the under side. During a very wet season the Bubach has troubled us some by rotting, even before they were ripe; but during dry weather we have nothing of the sort. In fact, we have seen nothing of this trouble for the past three seasons, including the present. To have the plant do its best, however, they should be pretty severely thinned, so that each plant may have six or eight inches of room. Thin them out like this, and make the ground exceedingly rich, and you will have berries that are almost like peaches. In fact, you can take one of these great big fellows and make several bites of it as you would of a peach.

I think I have touched upon all the strawberries we list, except our old friend the Warfield. This is ahead of all others in color. In fact, the brilliant sparkle of the garnet-colored fruit as it gleams out among the green foliage would almost of itself give it a place among the standard choice berries. No other berry in the world—at least, none that I have ever seen—has so brilliant and deep a color. In my early life as a jeweler I used to have something to do with valuable stones, and the garnet was always my favorite; and I scarcely ever catch sight of the Warfield berries without thinking of a cluster of garnets. Aside from its beauty it has a brisk, sparkling, tart flavor, quite distinct from any other berry. It is also a beautifully shaped berry—there are no awkward monstrosities. Its sole fault is that it is small; but this is generally owing to the fact that it sends out so many runners that the plants stand too thick, even the first season. On that account we get nicer berries from plants set out in the fall. Thin them out till they stand at least five inches apart each way, then give them ground that is made exceedingly rich and mellow, and you will not only have clusters of small garnets, but here and there a great berry that ought to make anybody fall in love with strawberries just to look at. It is an imperfect variety.

Up to the 1st of June we had 10 cents for our berries. They are now 8 cents. With the cool nights we have been having for three or four days past, I think there is not going to be any very great glut in the market. They are ripening so gradually that people manage to take them at fair prices.

It is now June 10, and most of our berries have got past their best, but the Parker Earle is just in its prime. The boys are inclined to think with myself, that, all things considered,

it rather takes the lead—at least, as it is this season; that is, if I could have only one strawberry, from the present standpoint I am inclined to think that one would be the Parker Earle. First, it is a perfect variety; second, it bears almost as many berries as even the Haverland—not quite, perhaps, but it comes pretty near it; third, it is handsome, colors up nicely, is of good color, good size, beautiful shape, and in quality is equal to almost any berry we have. Mrs. Root wanted some extra-fine berries because we were going to have company, and I gave her some Parker Earles. She gave me another point in its favor that I had never thought of. It has a long pear-shaped neck—a beautiful glossy neck, and perhaps it is the easiest berry to pull off the stem of any berry grown. This pear-shaped neck tapers down so that the green sepals project out just right to be caught by the fingers. She prepared three quarts for table use in just no time. That same evening a peck of Timbrells was left by mistake after everybody had gone home, and it was Saturday night, so they had to be canned. Well, while the Parker Earle is the nicest berry in existence for preparing for canning, she declared the Timbrell to be the worst. The calyx is tight down to the berry of the Timbrell, and is hard to pull off; in fact, you may have to break the stem, and then pull off the green leaves piece by piece. Now, this is quite an item for the housewife. Right here perhaps I might mention one objection sometimes made to the Parker Earle. It contains a good many seeds, and they are of pretty good size.

I mention these points in detail that you may get a glimpse of how many needful things there are that go to make up the "best strawberry in the world." It is not always a good thing to have strawberries slip too easily out of the calyx, because they do not keep nearly as well in that way as when picked with the stems on. And, by the way, the Parker Earle and every other strawberry should be picked by the stems—not clawed off, pulling the berries loose like raspberries, instead of picking them. My opinion is, the Parker Earle is just as good "to stem" as the Shuckless, and I have examined both. Of course, there is complaint that the Parker Earle does not succeed in every locality. I am inclined to think, however, that, if you give it plenty of manure and an abundance of water, with the ground underdrained and all worked up just right, it will always be a success; and when used with other varieties it prolongs the season quite a little. Our folks are now saying they would like to have strawberries the year round. Perhaps we can not very well have that in our climate, but we can greatly prolong the season by planting Michel's Early for first and Parker Earle for last. If any of our readers know of an earlier berry than Michel's Early or a later one than Parker Earle—that is, a real good later one—I should be glad to have a few sample plants. With the abundant rains we have been having for the past three or four days, the prospect is we shall be able to fill orders for plants—at least small orders—by the time this reaches you. This will refer, however, principally to the earlier varieties. The Parker Earle is so "busy" just now ripening its great luscious berries that it has not really time or strength to send out many runners.

There, I hope you have all been enjoying strawberries during the past month as we have been doing here in Medina.

SACALINE.

In answer to several inquiries, I would say that sacaline, at the present writing, even in our rich plant-beds, is only 4 or 5 feet high. I

thought if it grew 17 feet, as the catalogs claim, on ordinary ground, possibly it might grow 25 or 30, or possibly as tall as the giant bamboo in Florida, if I put it in the rich plant-beds. Of course, it did not do much last season, but I supposed it was getting rooted; but the present indications are that it will not do much better this year. Perhaps I gave it too good a chance. A plant that I put in hard ground near a sloop-drain seems to be of a little healthier color; but none of them so far come anywhere near what the catalogs represent.

Special Notices in the Line of Gardening, etc.

By A. I. Root.

The Cincinnati *Suburban News*, speaking of the book "Domestic Economy," says, "It is the most helpful book of the century, and any one getting and reading it will have more for the money than can be obtained from any other source." We mail it for 40 cts., although it is a dollar book.

THE EARLY PEABODY RED YAM.

Since reducing the price to 25 cts. per 100, there has been a regular stampede for the plants; and we have been behind somewhat in filling orders; but we have just been putting on the glass sashes during the cool weather, and pushing them to their utmost, and shall probably have plenty of plants by the time this reaches you. As they are an early variety they will succeed in most localities if the plants are put out any time between now and the middle of July. Price 25 cts. per 100. If wanted by mail, 50 cts. per 100, postpaid.

THE WHITTAKER ONION.

On page 752 of our issue for Oct. 1, 1895, we find the following in regard to these onions:

Before pulling-time I noticed from five to seven onions, or a bunch like the one I sent you by mail, apparently lying loose on the bunch of larger ones, the large ones yet green, and the small bunch ripe and ready to pick up, as they were loose, and lay unattached.

Well, this is just the way our Whittakers are behaving now; and as I have never heard of this belonging to any other onion, I think it must be peculiar to these; and we have so many mature ripened small onions or sets that have grown in this way that we offer them for sale at 15 cts. a quart. If wanted by mail, add 10 cts. more for postage and packing. Why, it really reminds one of picking up ripe chestnuts under the trees, to see these dry onions loose and fully ripened up right on top of the ground. It occurs in this way, as nearly as I can discover: When the onion is in rich mellow soil, it divides or breaks up, as it were, in so short a time that some of the divisions get pushed out so that they have no root attachment to the ground; accordingly the onion stops growing, and the top withers down and dries up prematurely. The growing crowds it out so that it finally lies on top beside the growing stalks; and these onions are just right to plant, for they are exactly the same kind I put in the ground last fall. We have now full-sized onions four inches across, and they are still growing. Just imagine a green patch like this, with the ground full of onions, and onions that have stood right there all winter long, and yet not a seed-stalk in the whole patch.

Our White Multipliers are also doing better than they have done before, and some of them are sufficiently mature so that we can furnish mature sets or onions for planting, at the same price as the above.

HOW TO GROW CELERY ANYWHERE.

This comes from Kalamazoo, Mich. It is a book of 112 pages, very coarse print, heavily "leaded," so there is really but a small amount of matter on each page. There are no cuts in the book at all except those loaned the publisher by the manufacturers of agricultural implements. A great part of them come from the Planet Jr. people. The book is neatly bound; and, judging from the price of agricultural books in general, we might expect the price to be 75 cents, or possibly \$1.00; but the publishers want \$2.25 for it. The book contains a good deal that is valuable. I believe it is clear up to the